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13. ABSTRACT (Maximum 200 words)  In response to the growing number of environmental laws and regulations worldwide, the U.S. Army has adopted an environmental compliance program that identifies compliance problems before they are cited as violations by the U.S. Environmental Protection Agency (USEPA).  Beginning in 1985, Major Army Commands (MACOMs) were required to conduct comprehensive environmental assessments at all installations on a 4-year cycle. The installations must also conduct a mid-cycle internal assessment. Because each MACOM was developing a separate assessment system, the Army mandated, through Army Regulation 200-1, one unified Army-wide assessment mechanism. The resulting system combines Federal, Department of Defense (DOD), and Army environmental regulations, along with good management practices and risk management information, into a series of checklists that show (1) legal requirements and (2) which specific items or operations to review. Each assessment protocol lists a point of contact to help assessors review the checklist items as effectively as possible. The Environmental Compliance Assessment System (ECAS) manual incorporates existing checklists from USEPA and private industry.  The Oregon Supplement was developed to be used in conjunction with the U.S. ECAS manual, using existing Oregon state environmental legislation and regulations as well as suggested management practices.				
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## FOREWORD

This work was performed for the U.S. Army Environmental Center (USAEC), under Military Interdepartmental Purchase Request (MIPR) number 1223, *Environmental Compliance Assessment System (ECAS)*, dated 5 August 1993. The USAEC technical monitor was Curt Williams, SFIM-AEC-ECC.

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## NOTICE

This manual is intended as general guidance for personnel at certain United States Army installations. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate counsel.



## Oregon Supplement

This Oregon Environmental Compliance Assessment System (ECAS) Manual contains the protocols necessary for determining compliance with Oregon environmental rules and regulations. This manual is a supplement to the U.S. ECAS Manual; it does not replace it.

The following Oregon agencies issue regulations in the indicated areas:

- The Center for Environmental Health, Drinking Water Section, administers the drinking water program.
- The Department of Environmental Quality is responsible for most areas of environmental concern. The Department manages an extensive recycling program and a waste reduction program. The underground storage tank program and the noise pollution control program are administered by the Department. The following divisions administer several other programs:
  - The Air Quality Division administers air pollution control programs. Oregon has assumed all of the programs required by Federal regulation and several more stringent requirements.
  - The Water Quality Control Division administers the state National Pollutant Discharge Elimination System (NPDES) permit program and oversees surface and groundwater protection.
  - The Hazardous and Solid Waste Division administers solid and hazardous waste programs.
- The Department of Fish and Wildlife administers the endangered species program.
- The State Fire Marshall is responsible for aboveground storage tanks.
- The Parks and Recreation Division, Historic Preservation Office, is responsible for preservation activities.



# ACRONYM LIST OREGON SUPPLEMENT

AASTO	
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BTEX	Xylenes
CAA	Clean Air Act
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CWA	Clean Water Act
dB	Decibel
dBA	Decibels Using A-weighting Network
dB(C)	Decibels using C-weighting Network
DEQ	Department of Environmental Quality
DOD	Department of Defense
ECAS	Environmental Compliance Assessment System
EDB	Ethylene Dibromide
EDC	1,2-dichloroethane
EPM	Environmental Program Management
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FR	Federal Register
FY	Federal Fiscal Year
GVWR	Gross Vehicle Weight Rating
HEPA Filter	High Efficiency Particulate Air Filter
HWM	Hazardous Waste Management
ICRU	International Commission on Radiological Units and Measurements
LAER	Lowest Achievable Emission Rate
LC	Lethal Concentration
Ldn	Day-Night Airport Noise Level
Leq	Equivalent Noise Level
MC	Medium Curing
MBtu	Million British Thermal Unit
MCL	Maximum Contaminant Level
MFL	Million Fibers per Liter
NBS	National Bureau of Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NTNCWS	Nontransient Noncommunity Water System
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbons
PBB	Polybrominated Biphenyl
PCB	Polychlorinated Biphenyl
POTW	Publicly Owned Treatment Work
RC	Rapid Curing
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act

**ACRONYM LIST  
OREGON SUPPLEMENT**

SC	Slow Curing
SDWA	Safe Drinking Water Act
SIC	Standard Industrial Classification
SPCC	Spill Prevention Countermeasure and Control
SPL	Sound Pressure Level
SWDA	Solid Waste Disposal Act
TPH	Total Petroleum Hydrocarbons
TRI	Toxic Release Inventory
TSCA	Toxic Substance Control Act
TSD	Treatment, Storage, and Disposal
TSDF	Treatment, Storage, and Disposal Facility
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VOC	Volatile Organic Chemical
WPCF	Water Pollution Control Facilities

## Abbreviations

bbl	barrel	$\mu$ N	micronewtons
C	Celsius	min	minute
cm	centimeter	MJ	MegaJoule
cm <sup>2</sup>	square centimeter	mL	milliliter
cm <sup>3</sup>	cubic centimeter	mo	month
F	Fahrenheit	mm	millimeter
ft	foot	Mg	Megagram
ft <sup>2</sup>	square feet	mrem	millirem
ft <sup>3</sup>	cubic feet	MW	Megawatt
g	gram	ng	nanogram
gal	gallon	NTU	nephelometric turbidity unit
gJ	gigaJoule	oz	ounce
gr	grain	pCi	picoCuries
h	hour	ppm	parts per million
hp	horsepower	ppb	parts per billion
in.	inch	psi	pounds per square inch
J	Joule	psia	pounds per square inch absolute
kg	kilogram	psig	pounds per square inch gauge
km	kilometer	qt	quart
kPa	kiloPascal	s	second
L	liter	scf	standard cubic feet
lb	pound	scm	standard cubic meter
m	meter	V	volt
m <sup>2</sup>	square meter	yd	yard
m <sup>3</sup>	cubic meter	ys <sup>2</sup>	square yard
mg	milligram	yd <sup>3</sup>	cubic yard
mi	mile	yr	year
$\mu$ g	microgram		
$\mu$ m	micrometer		
$\mu$ Pa	micropascals		

## Chemicals

CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
Hg	Mercury
NO <sub>x</sub>	Nitrogen Oxide
SO <sub>2</sub>	Sulfur Dioxide
NO <sub>2</sub>	Nitrogen Dioxide



## **SECTION 1**

**CLEAN AIR ACT (CAA)**

**Oregon Supplement**

# SECTION 1

## CLEAN AIR ACT (CAA)

### Oregon Supplement

#### Definitions

These definitions were obtained from the following Oregon Administrative Rules (OAR):

340-20-110  
340-20-145  
340-20-225  
340-21-005  
340-21-050  
340-22-005  
340-22-050  
340-22-102  
340-23-030  
340-24-005  
340-25-005  
340-29-005.

- *Agricultural Open Burning* - the open burning of any agricultural waste.
- *Agricultural Operation* - an activity on land currently used or intended to be used primarily for the purpose of obtaining a profit in money by raising, harvesting, and selling crops or by the raising and sale of livestock or poultry, or the produce thereof, which activity is necessary to serve that purpose; it does not include the construction and use of dwellings customarily provided in conjunction with the agricultural operation.
- *Agricultural Waste* - any material actually generated or used by an agricultural operation, excluding: wet garbage, plastic, wire insulation, automobile parts, asphalt, petroleum products, petroleum treated materials, rubber products, animal remains, or animal or vegetable matter resulting from the handling, preparation, cooking, or service of food.
- *Air Contaminant* - dust, fumes, mist, smoke, other particulate matter, vapor, gas, odorous substance, or any combination thereof.
- *Air Contaminant Discharge Permit* - See permit.
- *ASTM* - the American Society for Testing and Materials.
- *Best Available Control Technology (BACT)* - an emission limitation (including a visible emission standard) based on the maximum degree of reduction of each air contaminant subject to regulation under the CAA that would be emitted from any proposed major source or major modification, which, on a case-by-case basis, taking into account energy, environmental, economic impacts, and other costs, is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such air contaminants.



- *Bulk Gasoline Plant* - a gasoline storage and distribution facility that receives gasoline from bulk terminals by railroad car or trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.
- *Bulk Gasoline Terminal* - a gasoline storage facility that receives gasoline from refineries primarily by pipeline, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck.
- *Class I Area* - any Federal, state, or Indian reservation land that is classified or reclassified as Class I area, including: Mt. Hood Wilderness, Eagle Cap Wilderness, Hells Canyon Wilderness, Mt. Jefferson Wilderness, Mt. Washington Wilderness, Three Sisters Wilderness, Strawberry Mountain Wilderness, Diamond Peak Wilderness, Crater Lake National Park, Kalmiopsis Wilderness, Mountain Lake Wilderness, and Gearhart Mountain Wilderness.
- *Coastal Areas* - Clatsop, Tillamook, Lincoln, Coos, and Curry Counties and those portions of Douglas and Lane County west of Range 8 West, Willamette Meridian.
- *Commence Construction* - to begin to engage in a continuous program of onsite construction or onsite modifications, including site clearance, grading, dredging, or landfilling in preparation for the fabrication, erection, installation, or modification of an indirect source. Interruptions and delays resulting from acts of God, strikes, litigation, or other matter beyond the control of the owner are disregarded in determining whether a construction or modification program is continuous.
- *Commercial Open Burning* - the open burning of any commercial waste.
- *Commercial Waste* - any material, except agricultural waste, construction waste, demolition waste, domestic waste, industrial waste, and slash. Examples of commercial waste are material from offices, wholesale or retail yards and outlets, warehouses, restaurants, mobile home parks, and dwellings containing more than four family living units such as apartments, condominiums, hotels, motels, or dormitories.
- *Construction* - any physical change (including fabrication, erection, installation, demolition, or modification of an emissions unit) or change in the method of operation of a source which would result in a change in actual emissions.
- *Construction Open Burning* - the open burning of any construction waste.
- *Construction Waste* - any material actually resulting from or produced by a building or construction project. Examples of construction waste are wood, lumber, paper, crating and packing materials used during construction, materials left after completion of construction, and materials collected during cleanup of a construction site.
- *Continuous-flow Conveying Methods* - methods which transport materials at uniform rates of flow, or at rates generated by the production process.
- *Cutback Asphalt* - a mixture of a base asphalt with a solvent such as gasoline, naphtha, or kerosene. Cutback asphalts are rapid, medium, or slow curing (known as RC, MC, SC), as defined in ASTM D2399.
- *Delivery Vessel* - any tank truck or trailer used for the transport of gasoline from sources of supply to stationary storage tanks.
- *Demolition Open Burning* - the open burning of demolition waste.

- *Demolition Waste* - any material actually resulting from or produced by the complete or partial destruction or tearing down of any manmade structure or the clearing of any site for land improvement or cleanup, excluding yard debris (domestic waste) and agricultural waste.
- *Department* - the Oregon Department of Environmental Quality.
- *Distillate Fuel Oil* - any oil meeting the specifications of ASTM Grade 1 or Grade 2 fuel oils.
- *Domestic Open Burning* - the open burning of any domestic waste.
- *Domestic Waste* - household material, including paper, cardboard, clothing, yard debris, or other material, actually generated in or around a dwelling of four or fewer family living units, or on the real property appurtenant to the dwelling. Such materials actually generated in or around a dwelling of more than four family living units are commercial wastes. Once domestic waste is removed from the property of origin, it becomes commercial waste.
- *Dry Cleaning Facility* - any facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes but is not limited to any washer, dryer, filter, and purification systems, waste disposal systems, holding tanks, pumps, and attendant piping and valves.
- *Emission* - the release of air contaminants into the outdoor atmosphere.
- *Fire Hazard* - the presence or accumulation of combustible material of such nature and in sufficient quantity that its continued existence constitutes an imminent and substantial danger to life, property, public welfare, or to adjacent lands.
- *Flexographic Printing* - the application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.
- *Forced-Air Pit Incineration* - any method or device by which burning is accomplished in a subsurface pit or aboveground enclosure using:
  1. combustion air supplied under positive draft by an air curtain
  2. combustion air controlled in such a manner as to optimize combustion efficiency and minimize the emission of air contaminants.
- *Freeboard Ratio* - the freeboard height divided by the width (not length) of the degreaser's air/solvent area.
- *Fuel Burning Equipment* - equipment, other than internal combustion engines, the principal purpose of which is to produce heat or power by indirect heat transfer.
- *Fugitive Emissions* - dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof not easily given to measurement, collection, and treatment by conventional pollution control methods.
- *Gas Service* - equipment that processes, transfers, or contains a volatile organic compound (VOC) or mixture of VOCs in the gaseous phase.
- *Gasoline* - any petroleum distillate having a Reid vapor pressure of 27.6 kilopascal (kPa) (4.0 psi) or greater and is used to fuel internal combustion engines.

- *Gasoline Dispensing Facility* - any site where gasoline is dispensed to motor vehicle, boat, or airplane gasoline tanks from stationary storage tanks.
- *Indirect Source* - a facility, building, structure, or installation, or any portion or combination thereof, that directly causes or may cause mobile source activity that results in emissions of an air contaminant for which there is a state standard. Such indirect sources include, but are not limited to, highways and roads, parking facilities, retail commercial and industrial facilities, recreation, amusement, sports, and entertainment facilities, airports, office and government buildings, apartments and mobile homes, educational facilities, hospital facilities, and religious facilities.
- *Industrial Open Burning* - the open burning of any industrial waste.
- *Industrial Waste* - any material, including process waste, produced as the direct result of any manufacturing or industrial process.
- *Lowest Achievable Emission Rate (LAER)* - the rate of emissions which reflects the most stringent emission limitation that is contained in the implementation plan of any state for such class or category of source, unless the operator of the proposed source demonstrates that such limitations are not achievable; or the most stringent emission limitation that is achieved in practice by such class or category of source, whichever is more stringent.
- *Major Modification* - any physical change or change of operation of a source that would result in a net significant emission rate increase for any pollutant subject to regulation under the CAA. This criteria also applies to any pollutants not previously emitted by the source.
- *Major Source* - a stationary source that emits, or has the potential to emit, any pollutant regulated under CAA at a Significant Emission Rate.
- *Modified* - any change in the method of operation of, or addition to, or physical change of a stationary source which increases the allowable emission rate of any VOC regulated (including any not previously emitted and taking into account all accumulated increases in allowable emissions occurring at the source since regulations were adopted, or since the time of the last construction approval was issued for the source, whichever time is more recent, regardless of any emission reductions achieved elsewhere in the source).
- *Modified Wigwam Waste Burner* - a device that has the general features of a wigwam waste burner, but with improved combustion air controls and other improvements installed in accordance with design criteria approved by the Department.
- *Motor Vehicle* - any self-propelled vehicle designed and used for transporting persons or property on a public street or highway.
- *Municipal Waste Incinerator* - a device used to reduce the volume of general household wastes by combustion that is capable of processing more than 200 lb/h of such wastes but is too small to be classed as a major source as defined by the Department's New Source Review Rule, OAR 340-20-220 to 340-20-275.
- *New Source* - any air contaminant source installed, constructed, or modified after 1 June 1970.
- *Nonattainment Area* - a geographical area of the state that exceeds any state or Federal primary or secondary ambient air quality standard as designated by the Oregon Environmental Quality Commission and approved by the U.S. Environmental Protection Agency (USEPA).

- *Odor* - that property of an air contaminant that affects the sense of smell.
- *Opacity* - the degree to which an emission reduces transmission of light or obscures the view of an object in the background. Opacity is expressed in percentages.
- *Open Burning* - burning in open outdoor fires, burn barrels, and incinerators that do not meet the emission limitations specified for refuse burning equipment, and any other burning occurring in such a manner that combustion air is not effectively vented through a stack or chimney.
- *Packaging Rotogravure Printing* - rotogravure printing on paper, paper board, metal foil, plastic film, and other substrates, which are, in subsequent operations, formed into packaging products and labels for articles to be sold.
- *Particulate Matter* - any matter, except uncombined water, which exists as a liquid or solid at standard conditions.
- *Permit or Air Contaminant Discharge Permit* - a written permit issued by the Department or Regional Authority in accordance with duly adopted procedures, which by its conditions authorizes the permittee to construct, install, modify, or operate specified facilities, conduct specified activities, or emit, discharge, or dispose of air contaminants in accordance with specified practices, limitations, or prohibitions.
- *Potential to Emit* - the maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, is treated as part of its design if the limitation or the effect it would have on emissions is enforceable. Secondary emissions do not count in determining the potential of a source to emit.
- *Printing* - the formation of words, designs, and pictures, usually by a series of application rolls, each with only partial coverage.
- *Publication Rotogravure Printing* - rotogravure printing on paper that is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials.
- *Refuse* - unwanted matter.
- *Refuse Burning Equipment* - a device designed to reduce the volume of solid, liquid, or gaseous refuse by combustion.
- *Regional Authority* - Lane Regional Air Pollution Authority.
- *Residual Fuel Oil* - any oil meeting the specifications of ASTM Grade 4, Grade 5, or Grade 6 fuel oils.
- *Ringelmann Smoke Chart* - the Ringelmann Smoke Chart with instructions for use as published in May 1967, by the U.S. Department of Interior, Bureau of Mines.
- *Roll Printing* - the application of words, designs, and pictures to a substrate by means of hard rubber or steel rolls.

- *Significant Air Quality Impact* - an ambient air quality impact that is equal to or greater than those set out in Appendix 1-1. For sources of VOC, a major source or major modification will be deemed to have a significant impact if it is located within 30 km of an ozone nonattainment area and is capable of impacting the nonattainment area.
- *Significant Emission Rate* - emission rates equal to or greater than those listed in Appendix 1-2 for air pollutants regulated under CAA.
- *Slash* - forest debris or woody vegetation to be burned under the Oregon Smoke Management Plan administered by the Oregon Department of Forestry. The burning of such slash is related to the management of forest land and does not include the burning of any other material created by land clearing.
- *Source* - any building, structure, facility, installation, or combination thereof that emits or is capable of emitting air contaminants to the atmosphere, is located on one or more contiguous or adjacent properties, and is owned or operated by the same person or by persons under common control.
- *Specialty Printing* - all gravure and flexographic operations that print a design or image, excluding publication gravure and packaging printing. Specialty printing includes printing on paper plates and cups, patterned gift wrap, wallpaper, and floor coverings.
- *Splash Filling* - the filling of a delivery vessel or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.
- *Standard Conditions* - a temperature of 60 °F and a pressure of 14.7 psia.
- *Standard Cubic Foot* - the amount of gas that would occupy a volume of 1 ft<sup>3</sup>, if the gas were free of uncombined water at standard conditions. When applied to combustion flue gases from fuel or refuse burning, standard cubic foot also implies adjustment of gas volume to that which would result at a concentration of 12 percent carbon dioxide or 50 percent excess air.
- *Stationary Source* - any structure, building, or facility that emits or may emit any VOC.
- *Submerged Fill* - any fill pipe or hose, the discharge opening of which is entirely submerged when the liquid is 6 in. above the bottom of the tank; or, when applied to a tank which is loaded from the side, any fill pipe, the discharge of which is entirely submerged when the liquid level is 18 in., or is twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank.
- *True Vapor Pressure* - the equilibrium pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute (API) Bulletin 2517, *Evaporation Loss from Floating Roof Tanks*, February 1980.
- *Vapor Balance System* - a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.
- *Visible Emissions* - those gases or particulates, excluding uncombined water, which separately or in combination, are visible upon release to the outdoor atmosphere.

- *Volatile Organic Compound (VOC)* - any compound of carbon that is photochemically reactive. Excluded from the category of VOCs are CO, CO<sub>2</sub>, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and those compounds which the USEPA classifies as being of negligible photochemical reactivity, i.e., methane, ethane, methyl chloroform, methylene chloride, and trichlorotrifluoroethane.
- *Wigwam Waste Burner* - a burner that consists of a single combustion chamber, has the general features of a truncated cone, and is used for incineration of wastes.
- *Yard Debris* - wood, needle, or leaf materials from trees, shrubs, or plants from the real property appurtenant to a dwelling of not more than four family living units, so long as such debris remains on the property of origin. Once yard debris is removed from the property of origin it becomes commercial waste. Yard debris is included in the definition of domestic waste.



**CLEAN AIR ACT (CAA)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Air Pollution Control Registration and Permits	1-1 through 1-6
Requirements for Sources in Nonattainment Areas	1-7
Requirements for Sources in Attainment or Unclassified Areas	1-8
Visibility Impact	1-9
Open Burning	1-10 through 1-12
Visible Air Contaminant Limitations	1-13 and 1-14
Particulate Matter Emission Standards	1-15 through 1-20
Fugitive Emissions	1-21
Upset Conditions	1-22
Sulfur Content of Fuels	1-23
Sulfur Dioxide Emission Standards	1-24
VOC Emission Standards for Gasoline Storage	1-25
Bulk Gasoline Plants and Delivery Vessels	1-26
Bulk Gasoline Terminals	1-27
Cutback and Emulsified Asphalt	1-28 and 1-29
Liquid VOC Storage	1-30 through 1-32
Degreasers	1-33 through 1-35
Asphaltic and Coal Tar Pitch Used for Roofing Coating	1-36
Rotogravure and Flexographic Printing	1-37
Perchloroethylene Drycleaning	1-38



**GUIDANCE FOR OREGON CHECKLIST USERS**  
(continued)

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Motor Vehicles	1-39 and 1-40
Wigwam Waste Burners	1-41 and 1-42
Air Pollution Emergencies	1-43
Specific Air Pollution Control Rules for Benton, Linn, Marion, Polk, and Yamhill Counties	1-44 and 1-45

<b>COMPLIANCE CATEGORY:</b> <b>CLEAN AIR ACT (CAA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>AIR POLLUTION CONTROL REGISTRATION AND PERMITS</b>  <b>1-1.</b> Installations that operate specific air contaminant sources, not under the jurisdiction of a regional air pollution control authority, are required to register annually with the Department (OAR 340-20-005(5), (7), and (8)).  <b>1-2.</b> Installations are required to submit a notice of construction under specific circumstances (OAR 340-20-020 and 340-20-025).  <b>1-3.</b> Installations are required to obtain a permit before commencing construction of an indirect source (OAR 340-20-115(1)).	<p>(NOTE: See Appendix 1-3 for a list of exceptions to the provisions of these rules.)</p> <p>Determine if the installation contains one of the following air contaminant sources:</p> <ul style="list-style-type: none"> <li>- wigwam waste burners</li> <li>- open burning refuse disposal sites receiving more than 500 tons/yr of refuse</li> <li>- thermal-electric power generating plants.</li> </ul> <p>Verify that the installation registers annually with the Department.</p> <p>Verify that the installation does not construct, install, or establish a new source of air contaminant emission of any of the following classes (and is not under the jurisdiction of a regional air quality control authority) without first notifying the Department:</p> <ul style="list-style-type: none"> <li>- air pollution control equipment</li> <li>- fuel burning equipment rated at 400,000 British thermal units per hour (Btu/h) or greater</li> <li>- refuse burning equipment rated at 50 lb/h or greater</li> <li>- open burning operations</li> <li>- process equipment having emission to the atmosphere</li> <li>- other sources determined by the Department to be potentially significant sources of air contamination.</li> </ul> <p>(NOTE: New construction, installation, or establishment includes addition to or enlargement or replacement of an air contamination source, or a major alteration or modification of an air contamination source that significantly affects the emission of air contaminants.)</p> <p>Verify that the installation has obtained the required permit.</p>

<b>COMPLIANCE CATEGORY:</b> <b>CLEAN AIR ACT (CAA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-4.</b> Installations are required to obtain a permit before constructing, installing, establishing, developing, or operating any air contaminant source (OAR 340-20-155 (1)).</p>	<p>Verify that the installation has obtained a permit from the Department or Regional Authority.</p>
<p><b>1-5.</b> Installations are required to obtain a permit before making modifications to an air contaminant source that would significantly increase emissions (OAR 340-20-155 (2) and 340-20-160).</p>	<p>Verify that the installation has obtained the required permit.</p> <p>(NOTE: When a single site includes more than one air contaminant source, a single permit may be issued including all sources located at the site.)</p>
<p><b>1-6.</b> Installations are required to obtain an Air Contaminant Discharge Permit before beginning construction of a major source or a major modification of an air contaminant source (OAR 340-20-220(1)).</p>	<p>Verify that the installation has obtained the required permit.</p>
<p><b>REQUIREMENTS FOR SOURCES IN NONATTAINMENT AREAS</b></p>	
<p><b>1-7.</b> New major sources and major modifications that are located in designated nonattainment areas are required to meet specific requirements (OAR 340-20-240(1)).</p>	<p>Determine if the installation is located in a designated nonattainment area.</p> <p>Verify that the source or modification complies with the LAER for each nonattainment pollutant.</p> <p>(NOTE: In the case of a major modification, the requirement for LAER applies only to each new or modified emission unit that increases emissions.)</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>REQUIREMENTS FOR SOURCES IN ATTAINMENT OR UNCLASSIFIED AREAS</b></p> <p><b>1-8.</b> New major sources or major modifications that are located in areas designated attainment or unclassifiable are required to meet specific requirements (OAR 340-20-245(1) and (3)(a)(A) and (B)).</p>	<p>Determine if the installation is located in an attainment or unclassified area.</p> <p>Verify that the source or modification applies BACT for each pollutant emitted at a significant emission rate.</p> <p>(NOTE: In the case of a major modification, the requirement for BACT applies only to each new or modified emission unit that increases emissions.)</p> <p>(NOTE: Proposed major sources or major modifications are exempt from the BACT requirements if the following conditions are met:</p> <ul style="list-style-type: none"> <li>- the proposed source or major modification does not have a significant air quality impact on a designated nonattainment area</li> <li>- the potential emissions of the source are less than 100 tons/yr for sources in the following categories or less than 250 tons/yr for sources <i>not in the following source categories</i>: <ul style="list-style-type: none"> <li>- fossil fuel-fired steam electric plants of more than 250 Million Btu per hour (MBtu/h) heat input</li> <li>- municipal incinerators capable of charging more than 250 tons of refuse per day</li> <li>- fossil fuel-fired boilers (or combination thereof) totaling more than 250 MBtu/h heat input</li> <li>- petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels.)</li> </ul> </li> </ul>
<p><b>VISIBILITY IMPACT</b></p> <p><b>1-9.</b> New major sources or major modifications located in attainment, unclassified, or nonattainment areas are required to meet specific visibility impact requirements (OAR 340-20-276(1)(a)).</p>	<p>Determine if the installation operates a new major source or major modification and is located in an attainment, unclassified, or nonattainment area.</p> <p>Verify that the installation can demonstrate that the potential of the proposed major source or major modification to emit any pollutant at a significant emission rate, in conjunction with all other applicable emission increases or decreases, will not cause or contribute to significant impairment of visibility within any Class I area.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>OPEN BURNING</b></p> <p><b>1-10.</b> Installations are prohibited from engaging in specific types of open burning (OAR 340-23-035(1) through (6), 340-23-042(1), (2), (3), and (6) and 340-23-105).</p>	<p>(NOTE: Forced-air pit incineration may be approved as an alternative to open burning under certain conditions.)</p> <p>Determine if open burning on the installation meets any of the following exemptions:</p> <ul style="list-style-type: none"> <li>- fires set for traditional recreational purposes and traditional ceremonial occasions for which a fire is appropriate, if no materials which may emit dense smoke or noxious odors are burned</li> <li>- the operation of any barbecue equipment</li> <li>- fires set or allowed by any public agency when such fire is set or allowed in the performance of its official duty for the purpose of weed abatement, prevention or elimination of a fire hazard, a hazard to public health or safety, or instruction of employees in the methods of fire fighting, which in the opinion of the agency is necessary</li> <li>- agricultural open burning conducted east of the crest of the Cascade Mountains including all of Hood River and Klamath Counties</li> <li>- agricultural open burning in the Willamette Valley between the crests of the Cascade and Coast Ranges, provided that it meets the requirements of Rules for Open Field Burning (Willamette Valley) found elsewhere in this manual</li> <li>- open burning on forest land allowed under the forest practices Smoke Management Plan filed with the Secretary of State.</li> </ul> <p>Verify that the installation does not initiate or maintain any open burning which interferes unreasonably with enjoyment of life or property or which creates any of the following:</p> <ul style="list-style-type: none"> <li>- a private nuisance, except as created by agricultural open burning</li> <li>- a public nuisance, except as created by agricultural open burning</li> <li>- a hazard to public safety.</li> </ul> <p>Verify that the installation does not initiate or maintain any open burning of any wet garbage, plastic, wire insulation, automobile parts, asphalt, petroleum products, petroleum treated material, rubber products, animal remains, or animal or vegetable matter resulting from the handling, preparation, cooking, or service of food or of any other material normally emitting dense smoke or noxious odors.</p> <p>Verify that the installation does not initiate or maintain any open burning of any material in any part of the state on any day or at any time if the Department has notified the State Fire Marshal that such open burning is prohibited because of meteorological or air quality conditions.</p> <p>Verify that the installation does not initiate or maintain any open burning at any solid waste disposal site unless authorized by a Solid Waste Permit.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-11.</b> Installations located in Klamath County are subject to specific rules concerning open burning (OAR 340-23-055(1), (2)(a), (3)(f), (4)(f) and 340-23-100(1)).</p>	<p>Determine if the installation is located in Klamath County.</p> <p>Verify that the installation does not engage in industrial open burning.</p> <p>(NOTE: Open burning of commercial, industrial, construction, or demolition waste on a one-time or infrequent basis or the open burning of yard debris which is otherwise prohibited, may be permitted by a letter permit issued by the Department.)</p> <p>Verify that the installation does not engage in commercial open burning in or within 3 mi of the corporate city limits of the City of Klamath Falls.</p> <p>Verify that the installation does not engage in construction and demolition open burning in or within 3 mi of the corporate city limits of the City of Klamath Falls.</p> <p>(NOTE: Agricultural open burning in Klamath County is exempted from the regulations under these rules.)</p>
<p><b>1-12.</b> Installations located in Polk and Marion Counties are subject to specific rules concerning open burning (OAR 340-23-060(1), (2), (3), (4)(a), (4)(b)(C) and (D), (5)(a) and (c) and 340-23-100(1)).</p>	<p>Determine if the installation is located in Polk or Marion County.</p> <p>Verify that the installation does not engage in industrial or commercial open burning.</p> <p>(NOTE: Open burning of commercial, industrial, construction, or demolition waste on a one-time or infrequent basis or the open burning of yard debris which is otherwise prohibited, may be permitted by a letter permit issued by the Department.)</p> <p>Determine if the installation engages in agricultural open burning.</p> <p>Verify that installation meets the following when engaging in agricultural open burning:</p> <ul style="list-style-type: none"> <li>- agricultural open burning is prohibited between 15 July and 15 September, unless specifically authorized by the Department on a particular day</li> <li>- burning hours are during daylight hours, unless other hours are set by the Department.</li> </ul> <p>(NOTE: Agricultural open field burning of grass and cereal grain fields for seed production is regulated by Rules for Open Field Burning (Willamette Valley).)</p> <p>Determine if the installation engages in construction and demolition open burning.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-12. (continued)</b></p>	<p>Verify that the installation does not engage in construction and demolition open burning within special control areas including the following:</p> <ul style="list-style-type: none"> <li>- areas in or within 6 mi of the corporate city limits of Salem in Marion and Polk Counties</li> <li>- areas in or within 3 mi of the corporate city limit of: <ul style="list-style-type: none"> <li>- in Marion County the Cities of Aumsville, Hubbard, Gervais, Jefferson, Mill City, Mt. Angel, Silverton, Stayton, Sublimity, Turner, and Woodburn</li> <li>- in Polk County, the Cities of Dallas, Independence, and Monmouth.</li> </ul> </li> </ul> <p>Determine if the installation engages in domestic open burning.</p> <p>Verify that the installation does not engage in domestic open burning within the following special control areas:</p> <ul style="list-style-type: none"> <li>- areas in or within 6 mi of the corporate city limits of Salem in Marion and Polk Counties</li> <li>- areas in or within 3 mi of the corporate city limit of: <ul style="list-style-type: none"> <li>- in Marion County the Cities of Aumsville, Hubbard, Gervais, Jefferson, Mill City, Mt. Angel, Silverton, Stayton, Sublimity, Turner, and Woodburn</li> <li>- in Polk County, the Cities of Dallas, Independence, and Monmouth.</li> </ul> </li> </ul> <p>(NOTE: Open burning of yard debris is allowed beginning 1 March and ending 15 June inclusive, and beginning 1 October and ending 15 December inclusive.)</p> <p>Verify that the installation does not initiate or maintain any domestic open burning other than during daylight hours between 7:30 a.m. and 2 h before sunset, unless otherwise specified by the Department.</p>
<p><b>VISIBLE AIR CONTAMINANT LIMITATIONS</b></p> <p><b>1-13.</b> Installations that operate existing sources outside special control areas are required to restrict the emission of visible air contaminants (OAR 340-21-015(1) and (3)).</p>	<p>(NOTE: This section does not apply where the presence of uncombined water is the only reason for failure of any emission to meet the stated requirements.)</p> <p>Determine if the installation is located outside of the following special control areas:</p> <ul style="list-style-type: none"> <li>- The Mid-Willamette Valley Air Pollution Authority which includes the counties of Benton, Linn, Marion, Polk, and Yamhill</li> <li>- within incorporated cities having a population of 4000 or more</li> <li>- within 3 mi of the corporate limits of any such city.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>1-13. (continued)</b>	<p>Verify that the installation does not allow the emission of any air contaminant into the atmosphere from any existing air contaminant source located outside a special control area for a period or periods aggregating more than 3 min in any 1 h and is:</p> <ul style="list-style-type: none"> <li>- as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart</li> <li>- equal to or greater than 40 percent opacity.</li> </ul> <p>(NOTE: Existing fuel burning equipment using wood wastes and located within special control areas is required to meet the emission limitations outlined previously.)</p>
<p><b>1-14.</b> Installations that operate new sources in all cases and existing sources within special control areas are required to restrict the emission of visible air contaminants (OAR 340-21-015(2)).</p>	<p>Determine if the installation is located within one the following special control areas:</p> <ul style="list-style-type: none"> <li>- The Mid-Willamette Valley Air Pollution Authority which includes the counties of Benton, Linn, Marion, Polk, and Yamhill</li> <li>- within incorporated cities having a population of 4000 or more</li> <li>- within 3 mi of the corporate limits of any such city.</li> </ul> <p>Verify that the installation does not allow the emission of any air contaminant into the atmosphere from any new air contaminant source, or from any existing source within a special control area, for a period or periods aggregating more than 3 min in any 1 h and is:</p> <ul style="list-style-type: none"> <li>- as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart</li> <li>- equal to or greater than 20 percent opacity.</li> </ul>
<p><b>PARTICULATE MATTER EMISSION STANDARDS</b></p>	
<p><b>1-15.</b> Installations are required to restrict the emission of particulate matter from fuel burning equipment (OAR 340-21-020(1)(a) and (b)).</p>	<p>Determine if the installation operates fuel burning equipment.</p> <p>Verify that the installation does not allow the emission of particulate matter from any fuel burning equipment in excess of:</p> <ul style="list-style-type: none"> <li>- 0.2 gr/scf for existing sources</li> <li>- 0.1 gr/scf for new sources.</li> </ul>



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<p><b>1-16.</b> Installations are required to restrict the emission of particulate matter from refuse burning equipment (OAR 340-21-025(1) and (2)(a) and (b)).</p>	<p>Determine if the installation operates refuse burning equipment.</p> <p>Verify that the installation does not allow the emission of particulate matter from any refuse burning equipment in excess of the following:</p> <ul style="list-style-type: none"> <li>- 0.3 gr/scf for equipment designed to burn 200 lb of refuse per hour or less</li> <li>- 0.2 gr/scf for equipment designed to burn more than 200 lb of refuse per hour</li> <li>- 0.1 gr/scf for new sources.</li> </ul> <p>(NOTE: The previous requirement does not apply to small- to medium-size municipal waste incinerators located in coastal areas or to larger municipal incinerators.)</p>
<p><b>1-17.</b> Installations are required to restrict the emission of particulate matter from municipal waste incinerators located in coastal areas (OAR 340-21-027(1)(a), (3), and (4)).</p>	<p>Determine if the installation operates a municipal waste incinerator and is located in a coastal area.</p> <p>(NOTE: Municipal waste incinerators in coastal areas, installed between 1970 and 1982, of 13 tons/day capacity and less, are exempt from this rule, but are required to emit particulate at a concentration less than 0.30 gr/scf.)</p> <p>Verify that the installation does not allow the emission of particulate matter from any municipal waste incinerator in excess of the following:</p> <ul style="list-style-type: none"> <li>- 0.2 gr/scf of exhaust gases for municipal incinerators capable of processing not more than 50 tons/day of wastes</li> </ul> <p>(NOTE: In cases of multiple incinerators at one site, the emission standard stated previously applies only up to a combined capacity of 150 tons/day.)</p> <ul style="list-style-type: none"> <li>- 0.08 gr/scf of exhaust gases for municipal incinerators capable of processing greater than 50 tons/day of wastes.</li> </ul>
<p><b>1-18.</b> Installations that operate municipal waste incinerators are required to keep specific records (OAR 340-21-027(2)).</p>	<p>Verify that the installation monitors the exhaust gas temperatures of the municipal waste incinerator with a continuous recording pyrometer.</p> <p>Verify that the installation retains its pyrometer records for a minimum of 1 yr.</p>

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<p><b>1-19.</b> Installations are required to restrict the emission of particulate matter from sources other than fuel burning and refuse burning equipment (OAR 340-21-030).</p>	<p>Determine if the installation operates sources of particulate matter other than fuel burning and refuse burning equipment.</p> <p>Verify that the installation does not allow the emission of particulate matter from any air contaminant source other than fuel burning equipment or refuse burning equipment in excess of:</p> <ul style="list-style-type: none"> <li>- 0.2 gr/scf for existing sources</li> <li>- 0.1 gr/scf for new sources.</li> </ul>
<p><b>1-20.</b> Installations are required to restrict emission of particulate matter from process equipment (OAR 340-21-035 and 340-21-040).</p>	<p>Verify that the installation does not allow the emission of particulate matter in any 1 h from any process in excess of the amount shown in Appendix 1-4, for the process weight rate allocated to such process.</p> <p>(NOTE: This rule applies to all industrial processes other than those for which specific emission standards have been adopted. Also excluded are fuel burning and refuse burning equipment, in which combustion gases do not mix directly with process materials.)</p>
<p><b>FUGITIVE EMISSIONS</b></p>	
<p><b>1-21.</b> Installations are required to restrict the emission of particulate matter beyond the premises of origin (OAR 340-21-010(1)(b), (4) and 340-21-060(2)).</p>	<p>(NOTE: This rule is applicable within the following special control areas: the Mid-Willamette Valley Air Pollution Authority which includes the counties of Benton, Linn, Marion, Polk, and Yamhill; within incorporated cities having a population of 4000 or more; and within 3 mi of the corporate limits of any such city.)</p> <p>Determine if the installation is located within one of the special control areas.</p> <p>Verify that the installation does not allow any materials to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished, or any equipment to be operated, without taking reasonable precautions to prevent particulate matter from becoming airborne.</p> <p>Verify that the reasonable precautions include, but are not limited to:</p> <ul style="list-style-type: none"> <li>- use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of lands</li> <li>- application of asphalt, oil, water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces, which can create airborne dusts</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-21. (continued)</b></p>	<ul style="list-style-type: none"> <li>- full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne</li> <li>- installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials</li> <li>- adequate containment during sandblasting or other similar operations</li> <li>- covering, at all times when in motion, open-bodied trucks transporting materials likely to become airborne</li> <li>- the prompt removal from paved streets of earth or other material which does or may become airborne.</li> </ul>
<p><b>UPSET CONDITIONS</b></p> <p><b>1-22.</b> Installations are required to report conditions which result in excess emissions (OAR 340-21-070(1), (3) and 340-21-075).</p>	<p>Determine if the excess emissions are a result of the shutdown of air-pollution control equipment for necessary scheduled maintenance or the malfunction of air pollution-control equipment.</p> <p>Verify that the installation notifies the Department of the intent to shut-down air-pollution control equipment for necessary scheduled maintenance at least 24 h before the planned shutdown.</p> <p>Verify that the prior notice includes, but is not limited to:</p> <ul style="list-style-type: none"> <li>- identification of the specific facility to be taken out of service</li> <li>- the expected length of time that the air-pollution control equipment will be put out of service</li> <li>- the nature and quantity of emissions of air contaminants likely to occur during the shutdown period</li> <li>- measures, such as the use of offshift labor and equipment, that will be taken to minimize the length of the shutdown period, and where practical, minimize air contaminant emissions</li> <li>- reasons why it would be impractical to shut down the source operations during the maintenance period.</li> </ul> <p>Verify that the installation does not perform scheduled maintenance, which would result in the emission of air contaminants in violation of applicable standards, during any period in which Air Pollution Alert, Air Pollution Warning, or Air Pollution Emergency has been declared.</p> <p>Verify that the installation, in the event that any emission source, air-pollution control equipment, or related facility malfunctions or breaks down and causes the emission of air contaminants in violation of applicable standards, meets the following requirements:</p> <ul style="list-style-type: none"> <li>- notifies the Department, by telephone or in person, of such failure or breakdown within 1 h of the occurrence, or as soon as is reasonably possible, giving all pertinent facts including the estimated duration of the breakdown</li> <li>- initiates and completes appropriate action to correct the conditions and to reduce the frequency of such occurrences</li> </ul>

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<b>1-22. (continued)</b>	<ul style="list-style-type: none"> <li>- ceases or discontinues operation of the equipment or facility no later than 48 h after the beginning of the breakdown or upset period if the malfunction is not corrected within that time</li> <li>- immediately proceeds to cease or discontinue operation of the equipment or facility in the event that an Air Pollution Alert, Air Pollution Warning, or Air Pollution Emergency is declared, or in the event that the nature or magnitude of emissions from malfunctioning equipment is deemed by the Department to present imminent and substantial danger to health</li> <li>- notifies the Department when the condition causing the failure or breakdown has been corrected, and upon request, submits a written statement of the causes and the action taken to prevent future similar upset or breakdown conditions.</li> </ul>
<b>SULFUR CONTENT OF FUELS</b>	
<b>1-23.</b> Installations are prohibited from using specific types of fuel oil and coal (OAR 340-22-010(2), 340-22-015, 340-22-020, and 340-22-025).	<p>Determine if the installation uses the following types of fuels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> <li>- fuels used exclusively for the propulsion and auxiliary power requirements of vessels, railroad locomotives, and diesel motor vehicles</li> <li>- with prior approval of the Department of Environmental Quality, fuels used in such a manner or control provided such that sulfur dioxide emissions are demonstrated to be equal to or less than those resulting from the combustion of fuels complying with the limitations outlined below.</li> </ul> <p>Verify that the installation does not distribute, use, or make available for use any residual fuel oil that contains more than 1.75 percent sulfur by weight.</p> <p>Verify that the installation does not distribute, use, or make available for use any distillate fuel oil that contains more than the following percentages of sulfur:</p> <ul style="list-style-type: none"> <li>- ASTM Grade 1 fuel oil, 0.3 percent by weight</li> <li>- ASTM Grade 2 fuel oil, 0.5 percent by weight.</li> </ul> <p>Verify that the installation does not distribute, use, or make available for use any coal that contains greater than 1.0 percent sulfur by weight.</p> <p>Verify that the installation does not distribute, use, or make available for use, after 1 July 1983, any coal or coal-containing fuel with greater than 0.3 percent sulfur and 5 percent volatile matter as defined in ASTM Method D3175 for direct space heating within the Portland, Salem, Eugene-Springfield, and Medford-Ashland Air Quality Maintenance Areas.</p>

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<p><b>SULFUR DIOXIDE EMISSION STANDARDS</b></p> <p><b>1-24.</b> Installations that operate new sources are required to meet specific emissions standards for SO<sub>2</sub> (OAR 340-22-055).</p>	<p>(NOTE: New source refers to any air contaminant source installed, constructed, or modified after 1 January 1972.)</p> <p>Verify that, for fuel burning equipment having more than 150 MBtu/h heat input but not more than 250 MBtu/h heat input, the installation does not allow the emission of SO<sub>2</sub> into the atmosphere to exceed:</p> <ul style="list-style-type: none"> <li>- 1.4 lb/MBtu heat input, maximum 2-h average, when liquid fuel is burned</li> <li>- 1.6 lb/MBtu heat input, maximum 2-h average, when solid fuel is burned.</li> </ul> <p>Verify that for fuel burning equipment having more than 250 MBtu/h heat input, the installation does not allow the emission of SO<sub>2</sub> into the atmosphere to exceed:</p> <ul style="list-style-type: none"> <li>- 0.8 lb/MBtu heat input, maximum 2-h average, when liquid fuel is burned</li> <li>- 1.2 lb/MBtu heat input, maximum 2-h average, when solid fuel is burned.</li> </ul>
<p><b>VOC EMISSION STANDARDS FOR GASOLINE STORAGE</b></p> <p><b>1-25.</b> Installations that use stationary storage tanks are required to meet specific operating and equipment standards (OAR 340-22-110(1) and (2)).</p>	<p>Determine if the installation uses stationary storage tanks.</p> <p>Determine if the installation employs any of the following operations or equipment, which are exempt from this regulation:</p> <ul style="list-style-type: none"> <li>- transfers made to storage tanks of gasoline dispensing facilities equipped with floating roofs or their equivalent</li> <li>- stationary gasoline storage containers of less than 2085 L (550 gal)</li> <li>- stationary gasoline storage tanks located at a gasoline dispensing facility that are filled by a delivery vessel which was filled at an exempted bulk gasoline plant, if the storage tanks use submerged fill</li> <li>- stationary gasoline storage tanks with offset fill lines, welded-in drop tubes, or fill pipes of less than 3 in. diameter, if installed before 1 January 1979.</li> </ul>

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REQUIREMENTS:**

**REVIEWER CHECKS:**

**1-25. (continued)**

Verify that the installation does not transfer gasoline from any delivery vessel filled at a bulk gasoline terminal or nonexempted bulk gasoline plant into any stationary storage tank of less than 40,000-gal capacity unless the tank is filled by submerged fill and following conditions are met:

- a vapor recovery system is used and consists of a Certified Under-ground Storage Tank Device capable of collecting the vapor from volatile organic liquids and gases so as to prevent their emission to the outdoor atmosphere, or the vapors are processed by a system demonstrated to the satisfaction of the Department to be of equal effectiveness
- all tank gauging and sampling devices are gas-tight, except when gauging or sampling is taking place
- all equipment associated with the vapor recovery system is vapor tight and in good working order.

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>BULK GASOLINE PLANTS AND DELIVERY VESSELS</b>  <b>1-26.</b> Installations are required to follow specific procedures when transferring gasoline to or from a bulk gasoline plant (OAR 340-22-120(1)(a), (b), (d), (e), and (5)).	<p>(NOTE: This regulation does not apply to bulk plants which load 600,000 gal or less of gasoline per year.)</p> <p>Verify that the installation does not transfer gasoline to or from a bulk gasoline plant unless the following conditions are met:</p> <ul style="list-style-type: none"> <li>- each stationary storage tank and each delivery vessel uses submerged fill when transferring gasoline</li> <li>- the displaced vapors from filling each tank and each delivery vessel are prevented from being released to the atmosphere through use of a vapor-tight balance system, or equivalent system as approved in writing by the Department</li> <li>- all equipment associated with the vapor balance system is vapor tight and in good working order</li> <li>- each stationary gasoline storage tank releases vapor to the atmosphere through a pressure relief valve set to release at no less than 3.4 kPa (0.50 psi) or some other setting approved in writing by the Department</li> <li>- gasoline is handled in a manner to prevent spillage, discharge into sewers, storage in open containers, or is handled in any other manner that would result in evaporation.</li> </ul> <p>(NOTE: If more than 5 gal are spilled, the installation is required to report the spillage to the Department.)</p>
<b>BULK GASOLINE TERMINALS</b>  <b>1-27.</b> Installations that operate bulk gasoline terminals are required to meet specific operating procedures and equipment standards when loading gasoline to a truck tank or truck trailer (OAR 340-22-130).	<p>Determine if the installation operates a bulk gasoline terminal with a daily through-put of greater than 76,000 L (20,000 gal).</p> <p>Verify that the installation does not allow VOCs to be emitted into the atmosphere in excess of 80 mg of VOCs per liter of gasoline loaded from the operation of loading truck tanks and truck trailers.</p> <p>Verify that the installation does not allow the transfer of gasoline between the facility and a truck tank or a truck trailer unless one of the following conditions is met:</p> <ul style="list-style-type: none"> <li>- a current leak test certification for the delivery vessel is on file with the terminal</li> <li>- a valid inspection sticker is displayed on the delivery vessel.</li> </ul> <p>Verify that the delivery truck tank and/or trailer tank does not take on a load of gasoline unless the vapor return hose is properly connected.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>1-27. (continued)</b>	<p>Verify that all equipment associated with the vapor recovery system is vapor tight and in good working order.</p> <p>Verify that the bulk gasoline terminal meets the following requirements:</p> <ul style="list-style-type: none"> <li>- all displaced vapors and gases during tank truck gasoline loading operations are vented only to the vapor control system, except when gasoline delivery vessels are switched to diesel delivery service or to delivery of other VOCs with a Reid vapor pressure less than 4.0 psia</li> <li>- the loading device does not leak when in use</li> </ul> <p>(NOTE: The loading device is designed and operated to allow no more than 10 cm<sup>3</sup> drainage per disconnect on the basis of five consecutive disconnects.)</p> <ul style="list-style-type: none"> <li>- all loading liquid lines are equipped with fittings that make vapor-tight connections and close automatically and immediately when disconnected</li> <li>- all vapor lines are equipped with fittings that make vapor-tight connections and close automatically and immediately when disconnected or which contain vapor-tight unidirectional valves</li> <li>- gasoline is handled in a manner to prevent its being discarded in sewers or stored in open containers or handled in any manner that would result in evaporation</li> <li>- the vapor collection system is operated in a manner to prevent the pressure therein from exceeding the tank truck or trailer pressure relief settings.</li> </ul>
<b>CUTBACK AND EMULSIFIED ASPHALT</b>	
<b>1-28.</b> Installations are required to restrict use of cutback asphalts to certain times of the year (OAR 340-22-140(1), (2), and (4)).	<p>Determine if the installation uses slow curing (SC) and/or medium curing (MC) cutback asphalts, which are allowed during all months for the following uses and applications:</p> <ul style="list-style-type: none"> <li>- solely as a penetrating prime coat for aggregate bases prior to paving</li> <li>- for the manufacture of MC patching mixes to provide long-period storage stockpiles used exclusively for pavement maintenance</li> <li>- for all uses when the National Weather Service forecast of the high temperature during the 24-h period following application is below 10 °C (50 °F)</li> <li>- use of emulsified asphalts is unrestricted if solvent content is kept at or less than the limits listed in Appendix 1-5.</li> </ul> <p>(NOTE: If these limits are exceeded, then the asphalt is classified as MC cutback asphalts, and is limited to only the uses just outlined.)</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-28. (continued)</b></p>	<p>Verify that the installation does not use any cutback asphalts for paving roads and parking areas during the months of April through October.</p>
<p><b>1-29.</b> Installations are prohibited from using rapid curing (RC) grades of cutback asphalt at all times (OAR 340-22-140(3)).</p>	<p>Verify that the installation does not use RC grades of cutback asphalt at any time.</p>
<p><b>LIQUID VOC STORAGE</b></p>	
<p><b>1-30.</b> Installations that have tanks storing methanol or other VOC liquids are required to meet specific storage requirements (OAR 340-22-160(1) through (3)).</p>	<p>Determine if the installation stores methanol or other VOC liquids with a true vapor pressure, as stored, greater than 10.5 kPa (1.52 psia), but less than 76.7 kPa (11.1 psia) with a capacity greater than 150,000 L (approximately 39,000 gal).</p> <p>Verify that the installation meets one of the following:</p> <ul style="list-style-type: none"> <li>- the equipment specifications and maintenance requirements of the Federal standards of performance for new stationary sources - Storage Vessels for Petroleum Liquids, 40 Code of Federal Regulations (CFR) 60 Subpart K and Ka, as amended by Federal Register (FR), 4 April 1980, pages 23379 through 23381</li> <li>- is retrofitted with a floating roof or internal floating cover using at least a nonmetallic resilient seal as the primary seal meeting the equipment specifications in the Federal standards referred to previously, or its equivalent.</li> </ul> <p>Verify that all seals are maintained in good operating condition and the seal fabric contains no visible holes, tears, or other openings.</p> <p>Verify that all openings, except stub drains and those related to safety (such as slotted gage wells), are sealed with suitable closures.</p> <p>Verify that all tank gauging and sampling devices are gas-tight except when gauging or sampling is taking place or for slotted gage wells which must have floating seals with 1/2-in. edge gaps or less.</p>
<p><b>1-31.</b> Installations that use VOC liquid storage vessels are required to meet specific operating specifications and equipment standards (OAR 340-22-160(4)(a), (b), and (c)(A) through (F)).</p>	<p>Determine if the installation uses VOC liquid storage vessels equipped with external floating roofs, having capacities greater than 150,000 L (39,000 gal).</p> <p>Determine if the installation uses petroleum liquid storage vessels which meet the following requirements and are exempt from this regulation:</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>1-31. (continued)</b></p>	<ul style="list-style-type: none"> <li>- are used to store waxy, heavy-pour crude oil</li> <li>- have capacities less than 1,600,000 L (420,000 gal) and are used to store produced crude oil and condensate prior to lease custody transfer</li> <li>- contain a VOC liquid with a true vapor pressure less than 10.5 kPa (1.5 psia) where the vapor pressure is measured at the storage temperature</li> <li>- contain a VOC liquid with a true vapor pressure less than 27.6 kPa (4.0 psia), are of welded construction, and presently possess a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted-liquid filled type seal, or other closure device of demonstrated equivalence approved by the Department; or are of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoemounted secondary seal).</li> </ul> <p>Verify that the installation does not store VOC liquid in a VOC liquid storage vessel unless the following requirements have been met:</p> <ul style="list-style-type: none"> <li>- the vessel has been fitted with one of the following: <ul style="list-style-type: none"> <li>- a continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal)</li> <li>- a closure or other device which controls VOC emissions with an effectiveness equal to or greater than the seal described previously, as approved in writing by the Department</li> </ul> </li> <li>- all seal closure devices meet the following requirements: <ul style="list-style-type: none"> <li>- there are no visible holes, tears, or other openings in the seal(s) or seal fabric</li> <li>- the seal(s) is intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall</li> <li>- for vapor-mounted seals, the accumulated area of gaps exceeding 0.32 cm (1/8 in.) in width between the secondary seal and the tank wall does not exceed 21.2 cm<sup>2</sup>/m of tank diameter (1.0 in.<sup>2</sup>/ft of tank diameter)</li> </ul> </li> <li>- all openings in the external floating roof, except for automatic bleeder vents, rims space vents, and leg sleeves are equipped with: <ul style="list-style-type: none"> <li>- covers, seals, or lids in the closed position except when the opening are in actual use</li> <li>- projections into the tank which remain below the liquid surface at all times</li> </ul> </li> <li>- automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports</li> <li>- rim vents are set to open only when the roof is being floated off the leg supports or at the manufacturer's recommended setting</li> <li>- emergency roof drains are provided with slotted membrane fabric covers or equivalent covers which cover at least 90 percent of the area of the opening.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-32.</b> Installations that use VOC liquid storage vessels with external floating roofs are required to conduct annual inspections and maintain certain records (OAR 340 -22-160(4)(c)(G)(i) and (iii), and (H) through (J)).</p> <p><b>DEGREASERS</b></p> <p><b>1-33.</b> Installations that use dip tank cold cleaners are required to meet certain equipment specifications and operating requirements (OAR 340-22-180).</p>	<p>Determine if the installation uses a VOC liquid storage vessel with an external floating roof.</p> <p>Verify that the installation performs routine inspections annually, including a visual inspection of the secondary seal gap.</p> <p>Verify that the installation maintains records of the types of VOC liquids stored.</p> <p>Verify that the installation submits to the Department annual reports summarizing the inspections.</p> <p>Verify that all records are kept for a minimum of 2 yr.</p> <p>(NOTE: Installations that use a VOC liquid storage vessel with an external floating roof not subject to this regulation, but containing a VOC liquid with a true vapor pressure greater than 7.00 kPa (1.0 psi), must maintain records of the average monthly storage temperature, the type of liquid, and the maximum true vapor pressure for all VOC liquids with a true vapor pressure greater than 7.0 kPa.)</p> <p>(NOTE: Cold cleaners, open top vapor degreasers, and conveyORIZED degreasers are exempt from the following rules if they use fluids that are not photochemically reactive. These fluids are: C<sub>2</sub>Cl<sub>2</sub>F<sub>3</sub> trichlorotrifluoroethane, also known as Freon 113 or Freon TF; CH<sub>2</sub>Cl<sub>2</sub> methylene chloride; 1,1,1-C<sub>2</sub>H<sub>3</sub>Cl<sub>3</sub> methyl chloroform, also known as 1-1-1 trichloroethane or chlorothene VG (OAR 340-22-180).)</p> <p>Determine if the installation uses dip tank cold cleaners.</p> <p>Verify that the dip tank cold cleaner meets the following equipment specifications:</p> <ul style="list-style-type: none"> <li>- is equipped with a cover that can be readily opened and closed</li> <li>- is equipped with a drain rack, suspension basket, or suspension hoist that returns the drained solvent to the solvent bath</li> <li>- has a freeboard ratio of at least 0.5</li> <li>- has a visible fill line.</li> </ul> <p>Verify that the installation meets the following operating requirements:</p> <ul style="list-style-type: none"> <li>- the solvent level is maintained below the fill line</li> <li>- the spraying of parts to be cleaned is performed within the confines of the cold cleaner</li> <li>- the cover of the cold cleaner is closed when not in use or when parts are being soaked or cleaned by solvent agitation</li> <li>- solvent-cleaned parts are rotated to drain cavities or blind holes and then set to drain until dripping has stopped</li> <li>- waste solvent is stored in covered containers and returned to the supplier or a disposal firm handling solvents for final disposal.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>1-33. (continued)</b>	<p>Verify that a permanent and conspicuous pictograph or set of instructions which clearly explains the operating requirements outlined before is posted in the work area of each cold cleaner.</p> <p>Verify that the installation maintains cold cleaners in good working condition, free of solvent leaks.</p> <p>Verify that the cover can be easily operated with one hand or foot under the following conditions:</p> <ul style="list-style-type: none"> <li>- the solvent has a volatility greater than 2.0 kPa (0.3 psi) measured at 38 °C (100 °F)</li> <li>- the solvent is agitated or heated.</li> </ul> <p>Verify that the drainage facility is internal, if the solvent has a volatility greater than 4.3 kPa (0.6 psi) measured at 38 °C (100 °F), so that the parts are enclosed under the cover while draining.</p> <p>(NOTE: The drainage facility may be external for applications where an internal type cannot fit onto the cleaning system.)</p> <p>Verify that, if the solvent has a volatility greater than 4.3 kPa (0.6 psi) measured at 38 °C (100 °F), or if the solvent is heated above 50 °C (120 °F), one of the following solvent vapor control systems is used:</p> <ul style="list-style-type: none"> <li>- the freeboard ratio is equal to or greater than 0.70</li> <li>- water is kept over solvent that is insoluble in and heavier than water</li> <li>- other systems of equivalent control, such as a refrigerated chiller.</li> </ul>
<b>1-34. Installations that use open top vapor degreasers are required to meet certain equipment specifications and operating requirements (OAR 340-22-183).</b>	<p>Determine if the installation uses open top vapor degreasers.</p> <p>Verify that the open top vapor degreaser meets the following equipment specifications:</p> <ul style="list-style-type: none"> <li>- is equipped with a cover that can be readily opened and closed</li> </ul> <p>(NOTE: When a degreaser is equipped with a lip exhaust, the cover is to be located below the lip exhaust. The cover should move horizontally or slowly so as not to agitate and spill the solvent vapor.)</p> <ul style="list-style-type: none"> <li>- is equipped with at least the following three safety switches: <ul style="list-style-type: none"> <li>- condenser flow switch and thermostat, which shuts off sump heat if coolant is either not circulating or too warm</li> <li>- spray safety switch, which shuts off spray pump or conveyor if the vapor level drops more than 10 cm (4 in.)</li> <li>- vapor level control thermostat, which shuts off sump heat when vapor level rises too high</li> </ul> </li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>1-34. (continued)</b>	<ul style="list-style-type: none"> <li>- a closed design such that the cover opens only when the part enters or exits the degreaser (and when the degreaser starts up, forming a vapor layer, the cover may be opened to release the displaced air), and either of the following:               <ul style="list-style-type: none"> <li>- a freeboard ratio equal to or greater than 0.75</li> <li>- a freeboard, refrigerated, or coldwater chiller.</li> </ul> </li> </ul> <p>Verify that the installation meets the following operating requirements:</p> <ul style="list-style-type: none"> <li>- the cover of the degreaser is kept closed at all times, except when processing workloads</li> <li>- when the cover is open, the lip of the degreaser is not exposed to steady drafts greater than 15.3 m/min (50 ft/min)</li> <li>- parts are racked so as to facilitate solvent drainage</li> <li>- workloads do not occupy more than one-half of the vapor-air interface area</li> <li>- when using a powered hoist, the vertical speed of parts in and out of the vapor zone is less than 3.35 m/min (11 ft/min)</li> <li>- the workload is degreased in the vapor zone until condensation ceases</li> <li>- spraying operations are done within the vapor layer</li> <li>- parts are held in the degreaser until visually dry</li> <li>- when equipped with a lip exhaust, the fan is turned off when the cover is closed.</li> </ul> <p>Verify that a permanent and conspicuous pictograph or set of instructions that clearly explains the operating requirements outlined previously is posted in the immediate work area.</p> <p>Verify that the installation does not degrease porous or absorbent materials such as cloth, leather, wood, or rope.</p> <p>Verify that the condenser water is turned on before the sump heater when starting up a cold vapor degreaser.</p> <p>Verify that the sump heater is turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser.</p> <p>Verify that water is not visible in the solvent stream from the water separator.</p> <p>Verify that the installation conducts routine inspections and maintenance to prevent and correct solvent losses, and any leaks are repaired immediately.</p> <p>Verify that exhaust ventilation does not exceed 20 m<sup>3</sup>/min/m<sup>2</sup> (65 ft<sup>3</sup>/min/ft<sup>2</sup>) of degreaser open area, unless necessary to meet Occupational Safety and Health Administration (OSHA) requirements.</p> <p>Verify that ventilation fans are not used near the degreaser opening.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>1-34. (continued)</b></p>	<p>Verify that the installation meets the following procedures for storage, drainage, and transfer of solvents:</p> <ul style="list-style-type: none"> <li>- sump drainage and transfer of hot or warm solvent is accomplished using threaded or other leakproof couplings</li> <li>- still and sump bottoms are kept in closed containers</li> <li>- waste solvent is stored in covered containers and returned to the supplier or a disposal firm handling solvents for final disposal.</li> </ul>
<p><b>1-35.</b> Installations that use conveyORIZED cold cleaners and conveyORIZED vapor degreasers are required to meet certain equipment specifications and operating requirements (OAR 340-22-186).</p>	<p>Determine if the installation uses conveyORIZED cold cleaners and conveyORIZED vapor degreasers.</p> <p>Verify that the installation meets the following operating requirements:</p> <ul style="list-style-type: none"> <li>- exhaust ventilation does not exceed 20 m<sup>3</sup>/min /m<sup>2</sup> (65 ft<sup>3</sup>/min/ft<sup>2</sup>) of degreaser opening, unless necessary to meet OSHA requirements</li> <li>- workplace fans are not used near the degreaser opening</li> <li>- parts are racked for best drainage</li> <li>- the vertical speed of conveyORIZED parts is less than 3.35 m/min (11 ft/min)</li> <li>- the condenser water is turned on before the sump heater when starting up a cold vapor degreaser</li> <li>- the sump heater is turned off and the solvent vapor layer allowed to collapse before closing the condenser water when shutting down a hot vapor degreaser</li> <li>- routine inspections and maintenance are conducted to prevent and correct solvent losses</li> <li>- leaks are repaired immediately.</li> </ul> <p>Verify that a permanent and conspicuous pictograph or set of instructions that clearly explains the operating requirements outlined previously is posted in the immediate work area.</p> <p>Verify that the installation meets the following procedures for storage, drainage, and transfer of solvents:</p> <ul style="list-style-type: none"> <li>- sump drainage and transfer of hot or warm solvent is carried out using threaded or other leakproof couplings</li> <li>- still and sump bottoms are kept in closed containers</li> <li>- waste solvent is stored in covered containers and returned to the supplier or a disposal firm handling solvents for final disposal.</li> </ul> <p>Verify that all conveyORIZED cold cleaners and conveyORIZED vapor degreasers with air/vapor interfaces of 2 m<sup>2</sup> or greater are equipped with one of the following major control devices:</p> <ul style="list-style-type: none"> <li>- carbon adsorption system, exhausting less than 25 ppm of solvent averaged over a complete adsorption cycle (based on exhaust ventilation of 15 m<sup>3</sup>/min/m<sup>2</sup> of air/vapor area, when downtime covers are open</li> </ul>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>1-35. (continued)</b></p> <p><b>ASPHALTIC AND COAL TAR PITCH USED FOR ROOFING COATING</b></p> <p><b>1-36.</b> Installations are required to restrict the emission of VOCs from asphaltic and coal tar pitch (OAR 340-22-190).</p> <p><b>ROTOGRAVURE AND FLEXOGRAPHIC PRINTING</b></p> <p><b>1-37.</b> Installations that operate packaging roto-gravure, publication roto-gravure, flexographic, or specialty printing facilities are required to restrict the emission of VOCs (OAR 340-22-210(1) and (2)).</p>	<ul style="list-style-type: none"> <li>- refrigerated chiller with control effectiveness equal to or better than 20 m<sup>3</sup>/min/m<sup>2</sup> (65 ft<sup>3</sup>/min/ft<sup>2</sup>) of degreaser opening</li> <li>- a system with control effectiveness equal to or better than that listed above.</li> </ul> <p>(NOTE: This regulation does not apply to equipment with a capacity of 100 L (26 gal) or less, or to equipment with a capacity of 600 L (159 gal) or less, provided it is equipped with a tightly fitted lid or cover.)</p> <p>Determine if the installation uses asphaltic and coal tar pitch.</p> <p>Verify that the installation does not use equipment for melting, heating, or holding asphaltic or coal tar pitch for the onsite construction or repair of roofs unless the the following conditions are met:</p> <ul style="list-style-type: none"> <li>- gas-entrained effluents are contained by close-fitting covers</li> <li>- the temperature of the asphaltic or coal tar pitch is maintained below 285 °C (550 °F), or below the flash point, whichever is lower.</li> </ul> <p>Determine if the installation operates a packaging roto-gravure, publication roto-gravure, flexographic or speciality printing facility that emits more than 100 ton/yr and employs ink that contains solvent.</p> <p>Verify that the installation does not allow the operation of the press, unless one of the following conditions is met:</p> <ul style="list-style-type: none"> <li>- the volatile fraction of ink, as it is applied to the substrate, contains 25 percent by volume or less of organic solvent and 75 percent by volume or more of water</li> <li>- the ink as it is applied to the substrate, less water, contains 60 percent by volume or more nonvolatile material</li> <li>- the installation operates one of the following: <ul style="list-style-type: none"> <li>- a carbon absorption system that reduces the volatile organic emissions from the capture system by at least 90 percent by weight</li> </ul> </li> </ul>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>CLEAN AIR ACT (CAA)</b>  <b>Oregon Supplement</b></p>	
<p><b>REGULATORY REQUIREMENTS:</b></p>	<p><b>REVIEWER CHECKS:</b></p>
<p><b>1-37. (continued)</b></p>	<ul style="list-style-type: none"> <li>- an incineration system that oxidizes at least 90 percent of the nonmethane VOC (measured as total combustible carbon) to CO<sub>2</sub> and water</li> <li>- an alternative VOC emission reduction system approved by the Department, demonstrated to have at least a 90 percent reduction efficiency, measured across the control system.</li> </ul> <p>Verify that the installation uses a capture system in conjunction with the emission control system that provides for an overall reduction in VOC emissions of at least the following levels:</p> <ul style="list-style-type: none"> <li>- 75 percent for a publication rotogravure process</li> <li>- 65 percent for a packaging rotogravure process</li> <li>- 60 percent for a flexographic printing process.</li> </ul>
<p><b>PER-CHLOROETHYLENE DRYCLEANING</b></p> <p><b>1-38.</b> Installations that operate perchloroethylene drycleaning facilities are required to restrict the emission of VOCs (OAR 340-22-220(1) and (2)).</p>	<p>Determine if the installation operates one of the following types of perchloroethylene drycleaning facilities, which are exempt from this regulation:</p> <ul style="list-style-type: none"> <li>- coin-operated facilities</li> <li>- facilities where an adsorber or other necessary control equipment cannot be accommodated because of inadequate space</li> <li>- facilities with insufficient steam capacity to desorb adsorbers</li> <li>- small facilities which consume less than 320 gal of perchloroethylene per year.</li> </ul> <p>Verify that the installation meets the following operating requirements:</p> <ul style="list-style-type: none"> <li>- vents the entire dryer exhaust through a properly functioning carbon adsorption system or equally effective control device</li> <li>- emits no more than 100 ppm of VOCs from the dryer control device before dilution</li> <li>- immediately repairs all components found to be leaking liquid VOCs</li> <li>- cooks or treats all diatomaceous earth filters so that the residue contains 25 kg or less of VOCs per 100 kg of wet waste material</li> <li>- reduces the VOCs from all solvent stills to 60 kg or less per 100 kg of wet waste material</li> <li>- drains all filtration cartridges, in the filter housing, for at least 24 h before discarding the cartridges</li> <li>- when possible, dries all drained cartridges without emitting VOCs to the atmosphere.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>1-38. (continued)</b>	<p>Verify that the installation meets the following operating requirements for dry-to-dry configuration units:</p> <ul style="list-style-type: none"> <li>- the dryer/condenser system is closed to the atmosphere, except when articles are being loaded or unloaded through the door of the machine</li> <li>- the dryer/condenser system does not vent to the atmosphere until the air-vapor stream temperature on the outlet side of the refrigerated condenser is equal to or less than 45 °F.</li> </ul>
<b>MOTOR VEHICLES</b>	
<b>1-39.</b> Installations are required to restrict visible emissions from motor vehicles (OAR 340-24-010(1) and (2)(a) and 340-24-020).	<p>(NOTE: The following regulations do not apply where the presence of uncombined water is the only reason for failure of an emission to meet the following requirements.)</p> <p>Determine if the installation operates motor vehicles powered by compression ignition or diesel cycle engines, which are exempt from this regulation.</p> <p>Verify that the installation does not operate any motor vehicle on a public street or highway if it emits any visible emissions into the atmosphere.</p>
<b>1-40.</b> Installations are required to restrict visible emissions from motor vehicles powered by compression ignition or diesel cycle engines (OAR 340-24-015).	<p>Verify that when operated at an elevation of 3000 ft or less, motor vehicles powered by compression ignition or a diesel cycle engine do not emit visible emissions into the atmosphere:</p> <ul style="list-style-type: none"> <li>- of an opacity of greater than 40 percent</li> <li>- of an opacity of 10 percent or greater for a period exceeding 7 consecutive seconds.</li> </ul> <p>Verify that when operated at an elevation of over 3000 ft, motor vehicles powered by compression ignition or a diesel cycle engine do not emit visible emissions into the atmosphere:</p> <ul style="list-style-type: none"> <li>- of an opacity of greater than 60 percent</li> <li>- of an opacity of 20 percent or greater for a period exceeding 7 consecutive seconds.</li> </ul>
<b>WIGWAM WASTE BURNERS</b>	
<b>1-41.</b> Installations are prohibited from operating wigwam waste burners without approval of the Department (OAR 340-25-015(1)).	<p>Determine if the installation operates a modified wigwam waste burner, which is exempt from this regulation.</p> <p>Verify that that installation has obtained the approval of the Department.</p>

<b>COMPLIANCE CATEGORY:</b> <b>CLEAN AIR ACT (CAA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>1-42.</b> Installations are required to meet certain emission and operation standards for wigwam waste burners (OAR 340-25-020).</p> <p><b>AIR POLLUTION EMERGENCIES</b></p> <p><b>1-43.</b> Installations are required to develop an emission reduction plan to be implemented during an air pollution emergency (OAR 340-27-010).</p> <p><b>SPECIFIC AIR POLLUTION CONTROL RULES FOR BENTON, LINN, MARION, POLK, AND YAMHILL COUNTIES</b></p> <p><b>1-44.</b> Installations are required to restrict the emission of odorous matter (OAR 340-29-011(1)).</p> <p><b>1-45.</b> Installations are required to restrict the emission of large particulate matter (OAR 340-29-030).</p>	<p>Verify that the installation does not allow the emission of air contaminants into the atmosphere from any wigwam waste burner for a period or periods aggregating more than 3 min in any 1 h that is equal to or greater than 20 percent opacity.</p> <p>Verify that the installation does not use a wigwam waste burner for the incineration of other than production process wood wastes.</p> <p>(NOTE: Such wood wastes are to be transported to the burner by continuous-flow conveying methods.)</p> <p>Verify that the emission reduction plan contains detailed steps that will be taken by the installation to prevent the continued accumulation of air pollutants during each stage of an air pollution emergency.</p> <p>(NOTE: The three stages of air pollution episodes are: Alert, Warning, and Emergency.)</p> <p>Determine if the installation is located in one of the following counties: Benton, Linn, Marion, Polk, or Yamhill.</p> <p>Verify that the installation does not allow the emission of odorous matter to cause a public nuisance.</p> <p>Determine if the installation is located in one of the following counties: Benton, Linn, Marion, Polk, or Yamhill.</p> <p>Verify that the installation does not allow the emission of any particulate matter which is larger than 250 <math>\mu</math>m in size provided such particulate matter does or will deposit upon real property of another person.</p>



## Appendix 1-1

### Significant Air Quality Impact on Ambient Air Quality

(OAR 340-20-225(23)).

Pollutant	Annual	Pollutant Averaging Time			
		24-h	8-h	3-h	1-h
SO <sub>2</sub>	1.0 µg/m <sup>3</sup>	5 µg/m <sup>3</sup>		25 µg/m <sup>3</sup>	
TSP or PM <sub>10</sub> *	0.2 µg/m <sup>3</sup>	1.0 µg/m <sup>3</sup>			
NO <sub>2</sub>	1.0 µg/m <sup>3</sup>				
CO			0.5 mg/m <sup>3</sup>		2 mg/m <sup>3</sup>

\* TSP = total suspended particulate matter.

PM<sub>10</sub> = particulate emissions with an aerodynamic diameter less than or equal to a nominal 10 µ.



## Appendix 1-2

### Significant Emission Rates for Pollutants Regulated Under the Clean Air Act (CAA)

(Source: OAR 340-20-225(22)(a)).

Pollutant	Significant Emission Rate
Carbon Monoxide	100 tons/yr
Nitrogen Oxides	40 tons/yr
Particulate Matter	25 tons/yr
Sulfur Dioxide	40 tons/yr
VOC	40 tons/yr
Lead	0.6 ton/yr
Mercury	0.1 ton/yr
Beryllium	0.0004 ton/yr
Asbestos	0.007 ton/yr
Vinyl Chloride	1 ton/yr
Fluorides	3 tons/yr
Sulfuric Acid Mist	7 tons/yr
Hydrogen Sulfide	10 tons/yr
Total reduced sulfur (including hydrogen sulfide)	10 tons/yr
Reduced sulfur compounds (including hydrogen sulfide)	10 tons/yr



## **Appendix 1-3**

### **Air Pollution Control Exceptions**

(Source: OAR 340-20-003)

The provisions of the Air Pollution Control Registration and Permits section do not apply to the following:

- agricultural operations, the growing or harvesting of crops, and the raising of fowls or animals
- use of equipment in agricultural operations in the growth of crops or the raising of fowls or animals
- barbecue equipment used in connection with any residence
- agricultural land-clearing operations or land grading
- heating equipment in or used in connection with residences used exclusively as dwellings for not more than four families
- fires set or permitted by any public office, board, council, or commission when such fire is set or permission given in the performance of such duty of the officer for the purpose of weed abatement or the prevention or elimination of a fire hazard.





## Appendix 1-4

### Particulate Matter Emissions Standards for Process Equipment

(Source: OAR 340-21-040)

Process lb/h	Emissions lb/h	Process lb/h	Emissions lb/h	Process lb/h	Emissions lb/h
50	0.24	2300	4.44	7500	8.39
100	0.46	2400	4.55	8000	8.71
150	0.66	2500	4.64	8500	9.03
200	0.85	2600	4.74	9000	9.36
250	1.03	2700	4.84	9500	9.67
300	1.20	2800	4.92	10,000	10.00
350	1.35	2900	5.02	11,000	10.63
400	1.50	3000	5.10	12,000	11.28
450	1.63	3100	5.18	13,000	11.89
500	1.77	3200	5.27	14,000	12.50
550	1.89	3300	5.36	15,000	13.13
600	2.01	3400	5.44	16,000	13.74
650	2.12	3500	5.52	17,000	14.36
700	2.24	3600	5.61	18,000	14.97
750	2.34	3700	5.69	19,000	15.58
800	2.43	3800	5.77	20,000	16.19
850	2.53	3900	5.85	30,000	22.22
900	2.62	4000	5.93	40,000	28.30
950	2.72	4100	6.01	50,000	34.30
1000	2.80	4200	6.08	60,000	40.00
1100	2.97	4300	6.15	70,000	41.30
1200	3.12	4400	6.22	80,000	42.50
1300	3.26	4500	6.30	90,000	43.60
1400	3.40	4600	6.37	100,000	44.60
1500	3.54	4700	6.45	120,000	46.30
1600	3.66	4800	6.52	140,000	47.80
1700	3.79	4900	6.60	160,000	49.00
1800	3.91	5000	6.67	200,000	51.20
1900	4.03	5500	7.03	1,000,000	69.00
2000	4.14	6000	7.37	2,000,000	77.60
2100	4.24	6500	7.71	6,000,000	92.70
2200	4.34	7000	8.05		



## Appendix 1-5

### Solvent Content Limits for Emulsified Asphalts

(Source: OAR 340-22-140(4)(a))

Grades of Emulsion Per American Association of State Highway and Transportation Officials (AASHTO)	
Designation M 208-72	Maximum Solvent Content by Weight (%)
CRS-1	3
CRS-2	3
CSS-1	3
CSS-1h	3
CMS-2	8
CMS-2h	8
CMS-2S	12

NOTE: Solvent content is determined by ASTM distillation test D-244.

CRS - Cutback Asphalt-Rapid Setting  
CMS - Cutback Asphalt-Medium Setting  
CSS - Cutback Asphalt-Slow Setting



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Clean Air Act (CAA) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 2**

**CLEAN WATER ACT (CWA)**

**Oregon Supplement**

## SECTION 2

### CLEAN WATER ACT (CWA)

#### Oregon Supplement

#### Definitions

These definitions were taken from the Oregon Administrative Rules (OAR), Department of Environmental Quality, Sections 340-40-010, 340-45-010, 340-47-010, 340-51-100, and 340-71-010.

- *Administrator* - Administrator of the U.S. Environmental Protection Agency (USEPA).
- *Cesspool* - a lined pit that receives raw sewage, allows separation of solids and liquids, retains the solids and allows liquids to seep into the surrounding soil through perforations in the lining.
- *Channel* - a natural stream that conveys water; a ditch or channel excavated for the flow of water.
- *Columbia River* - the length of the Columbia River from where it leaves the state at the mouth of the Pacific Ocean to the point where it enters the State of Oregon from the State of Washington.
- *Commission* - the Environmental Quality Commission.
- *Confined Animal Feeding Operation* - the concentrated confined feeding or holding of animals or poultry, including, but not limited to: horse, cattle, sheep, or swine feeding areas, dairy confinement areas, slaughterhouse or shipping terminal holding pens, poultry and egg production facilities, and fur farms, in buildings, pens, or lots where the surface has been prepared with concrete, rock, or fibrous material to support animals in wet weather or that have wastewater treatment works.
- *Covered Vessel* - a tank vessel, cargo vessel, or passenger vessel of 300 gross (total) tons or more.
- *Department* - the Department of Environmental Quality.
- *Director* - the Director of the Department of Environmental Quality.
- *Discharge* - the placement of wastes into public waters, on land, or otherwise into the environment in a manner that does or may tend to affect the quality of public waters.
- *Disposal System* - a system for disposing of wastes, either surface or underground methods; includes sewerage systems, treatment works, disposal wells, and other systems, but excludes onsite sewage disposal systems regulated through the requirements OAR 340-71-160 and Oregon Revised Statutes (ORS) 454.655 and systems that recirculate without discharge.
- *Domestic Sewage* - waste and wastewater from household operations that are discharged to or otherwise enter treatment works.



- *Facility* (as pertaining to onshore or offshore facility) - any structure, group of structures, equipment, pipeline, or device, other than a vessel, located on or near the navigable waters of the state that is used for producing, storing, handling, transferring, processing, or transporting oil in bulk and that is capable of storing or transporting 10,000 gal or more of oil. Facility does not include:
  1. a railroad car, motor vehicle, or other rolling stock while transporting oil over the highways or rail lines of this state
  2. an underground storage tank regulated by the Department
  3. any structure, group of structures, equipment, pipeline, or device, other than a vessel located on or near navigable waters of the state, that is used for producing or transporting oil in bulk and that is capable of storing or transporting 10,000 gal or more of oil but does not receive oil from tanks, vessels, barges, or pipelines.
    - a. Offshore Facility - a facility located in, on, or under any of the navigable waters of the state; does not include any part of a facility that is located in, on, or under any land of the state other than submerged land.
    - b. Onshore Facility - a facility located in, on, or under any land that because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters of the state or adjoining shorelines.
- *Federal Act* - the *Federal Water Pollution Control Act*.
- *General Permit* - a permit issued to a category of qualifying sources in lieu of individual permits being issued to each source.
- *Groundwater* - any water below the surface of the earth in a zone of saturation that is not directly influenced by surface water, and is obtained through an approved well free of biological contamination significant to human health.
- *Heavy Oil* - fuel oil numbers 4, 5, 6, and crude oil.
- *Industrial Waste* - any liquid, gaseous, radioactive, or solid waste substance or a combination thereof resulting from any process of industry, manufacturing, trade, or business, or from the development or recovery of any natural resources.
- *Navigable Water* - all navigable waters of the United States and their tributaries, interstate waters, intrastate lakes, rivers, and streams that are used by intrastate travelers for recreation or other purposes; from which fish or shellfish are taken and sold in interstate commerce, or that are used for industrial purposes by industries in interstate commerce.
- *New Facility* - a facility or activity authorized to operate under a Department-approved permit for the first time after September 1991. A new facility or activity includes changes in facility operation, disposal technique, or other alterations that justify new conditions to and necessitate major modifications of an existing permit.
- *Nonpoint Source* - diffuse or unconfined sources of pollution where contaminants can either enter into or be conveyed by the movement of water to public waters.
- *Nonwater-carried Waste Disposal Facility* - any toilet facility that has no direct water connection, including pit privies, vault privies, and portable toilets.
- *NPDES* - the National Pollutant Discharge Elimination System.

- *Oils* - oil, including, but not limited to: gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and any other petroleum-related product.
- *Oily Waste* - oil-contaminated waste resulting from an oil spill or oil spill response operations.
- *Onsite Sewage Disposal System* - any existing or proposed onsite sewage disposal system including, but not limited to, a standard subsurface, alternative, experimental, or nonwater-carried sewage disposal system, installed or proposed to be installed.
- *Other Wastes* - garbage, refuse, decayed wood, sawdust, shavings, bark, and other wood debris, lime, sand, ashes, offal, night soil, oil, tar, coal dust, dredged or fill material, silt, or other substances that are not sewage or industrial waste, and any other pollutants or toxic pollutants as defined in the *Federal Water Pollution Control Act* that are not sewage or industrial waste.
- *Plan* - oil spill prevention and emergency response plan.
- *Point Source* - any discernible confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.
- *Pollutant* - dredged spoil, solid waste, incinerator residue, sewage, garbage, sewerage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.
- *Pollution or Water Pollution* - the alteration of the physical, chemical, or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state that will or tends to (either by itself or in connection with any other substance) create a public nuisance or that will or tends to render the waters harmful, detrimental, or injurious to public health, safety, or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wildlife, fish, or other aquatic life or the habitat thereof.
- *Pretreatment* - the waste treatment that might take place before discharging to a sewerage system including, but not limited to, pH adjustment, oil and grease removal, screening, and detoxification.
- *Privy* - a structure used for disposal of human waste without the aid of water. It consists of a shelter built above a pit or vault in the ground into which human waste falls.
- *Process Wastewater* - wastewater contaminated by industrial processes; does not include noncontact cooling water or storm runoff.
- *Public Health Hazard* - a condition whereby there are sufficient types and amounts of biological, chemical, physical, and/or radiological agents relating to water or sewage that are likely to cause human illness, disorder, or disability. These include, but are not limited to, pathogenic viruses, bacteria, parasites, toxic chemicals, and radioactive isotopes.
- *Public Waters or Waters of the State* - includes lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), that are wholly or partially within, or bordering the state, or within its jurisdiction.

- *Regional Administrator* - the regional administrator of Region 10 of the USEPA.
- *Response Contractor* - an individual organization, association, or cooperative that provides or intends to provide equipment and/or personnel for oil spill containment, cleanup, and/or removal activities.
- *Responsible Charge* - the individual at the facility responsible for the onsite supervision of technical operations and maintenance of a public water system, or a wastewater works, or any parts thereof that may affect the performance of the works or system, and that may affect the quality of the water or the effluent produced by such works.
- *Seepage Pit* - a lined pit that receives partially treated sewage that seeps into the surrounding solid through perforations in the lining.
- *Seepage* - the liquid and solid material pumped from a septic tank, holding tank, cesspool, or similar domestic sewage treatment system.
- *Sewage* - the water-carried human or animal waste from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration and surface water as may be present. The mixture of sewage with wastes or industrial wastes is also considered sewage.
- *Sewage Sludge* - any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater and domestic sewage or the treatment of domestic sewage. Sewage sludge includes, but is not limited to: solids removed during primary, secondary, or advance wastewater treatment, scum, seepage, portable toilet pumpings, and sewage sludge products.
- *Sewerage System* - pipelines or conduits, pumping stations, and force mains, and all other structures, devices, appurtenances, and facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal.
- *Spill* - any unlawful discharge or entry of oil into the public waters or water of the state including, but not limited to, quantities of spilled oils that would produce a visible oil slick, oily solids, or would coat aquatic life, habitat, or property with oil, but excluding normal discharges from properly operating marine engines.
- *State* - the State of Oregon.
- *Stream* - a body of water running or flowing on the earth's surface, or a channel in which such flow occurs. Flow may be seasonally intermittent.
- *Surface Water* - all water that is open to the atmosphere and subject to surface runoff, or which is directly influenced by surface water and may include springs, infiltration galleries, or wells.
- *Toxic Waste* - any waste that will cause or can reasonably be expected to cause a hazard to fish or other aquatic life, or to human or animal life in the environment.
- *Treatment or Waste Treatment* - the alteration of the quality of wastewaters by physical, chemical, or biological means, or a combination thereof such that the tendency of the wastes to cause any degradation in water quality or other environmental conditions is reduced.
- *Underground Injection Activity* - any activity involving underground injection of fluids including, but not limited to, waste disposal wells, petroleum-enhanced recovery injection wells, liquid petroleum storage wells, in situ mining wells, groundwater recharge wells, saltwater intrusion barrier wells, sand backfill wells, and subsidence control wells.

- *Underground Source of Drinking Water* - an aquifer or its portion that supplies drinking water for human consumption, or an aquifer in which the groundwater contains fewer than 10,000 mg/L total dissolved solids, and is not an exempted aquifer.
- *Waste Control Facility* - all or any part of a system(s) used in connection with a confined animal feeding or holding operation for one of the following:
  1. the control of drainage
  2. the collection, retention, treatment, and disposal of liquid wastes or contaminated drainage waters
  3. collection, handling, storage, treatment, or processing and disposing of manure.
- *Waste Disposal Well* - any bored, drilled, driven, or dug hole, whose depth is greater than its largest surface dimension, that is used or is intended to be used for disposal of sewage, industrial, agricultural or other wastes and includes drain holes, drywells, cesspools, and seepage pits, along with other underground injection wells, but does not apply to single-family residential cesspools or seepage pits nor to nonresidential cesspools or seepage pits that receive solely sanitary wastes and serve less than 20 persons per day.
- *Wastes* - sewage, industrial waste, and all other liquid, gaseous, solid, radioactive, or other substances that may cause pollution or tend to cause pollution of any waters of the state.
- *Wastewater* - any waterborne sewage, industrial waste, or other waste that may cause pollution.
- *Wastewater Treatment Facility* - treatment works that convey or may convey effluents that will be discharged into the waters of the state.
- *Waters of the State* - see Public Waters.
- *WPCF* - Water Pollution Control Facilities permit to construct and operate a disposal system with no discharge to navigable waters.



**CLEAN WATER ACT (CWA)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
NDPES and WPCF Permits	2-1
Industrial Waste Pretreatment	2-2
Motor Vehicles	2-3
Spill Prevention and Response	2-4 through 2-8
Onsite Sewage Disposal Systems	2-9 through 2-13
Confined Animal Feeding or Holding Operations	2-14 through 2-16
Underground Injection Wells	2-17 through 2-19

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**COMPLIANCE CATEGORY:  
CLEAN WATER ACT (CWA)  
Oregon Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>NPDES AND WPCF PERMITS</b></p> <p><b>2-1.</b> Installations with specific discharges must obtain a valid permit (OAR, Sections 340-45-015(1) through (4), and 340-45-020).</p>	<p>Verify that installations with any of the following activities have obtained a permit:</p> <ul style="list-style-type: none"> <li>- waste discharged into waters of the state from any industrial or commercial establishment, activity, or any disposal system</li> <li>- the construction, installation, modification, or operation of a disposal system</li> <li>- an increase in volume or strength of any waste that exceeds the discharges allowed in an existing permit</li> <li>- the construction, installation, or operation of any industrial, commercial, or other establishment that causes the increase of waste discharge into the waters of the state that alters the physical, chemical, or biological properties of the waters of the state in any manner not authorized</li> <li>- the construction or operation of any new outlet for the discharge of any waste into the waters of the state.</li> </ul> <p>Verify that the installation obtains a NPDES permit before discharging pollutants from a point source into navigable waters.</p> <p>Verify that the terms and conditions of the permit are met.</p> <p>Verify that the following wastes are not discharged into navigable or public waters:</p> <ul style="list-style-type: none"> <li>- radioactive, chemical, or biological warfare agents or high-level radioactive waste</li> <li>- any point source discharge that the Secretary of the Army acting through the Chief of Engineers finds would substantially impair anchorage or navigation</li> <li>- any point source discharge that is in conflict with an area- wide waste treatment discharge plan.</li> </ul> <p>(NOTE: Waste discharged into a sewerage system is exempted from obtaining an NPDES or WPCF permit if the owner of the sewerage system has a valid NPDES or WPCF permit.)</p> <p>(NOTE: The Director may issue general permits for certain categories of minor sources where individual NPDES or WPCF permits are not necessary to adequately protect the environment.)</p>



<b>COMPLIANCE CATEGORY:</b> <b>CLEAN WATER ACT (CWA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>INDUSTRIAL WASTE PRETREATMENT</b>  <b>2-2.</b> Installations with sewerage systems that receive industrial waste subject to pretreatment standards must meet pretreatment program standards (OAR, Section 340-45-063(1)).  <b>MOTOR VEHICLES</b>  <b>2-3.</b> Installations that deposit motor vehicle bodies into waters of the state must meet specific permit conditions (OAR, Sections 340-16-020(1) and 340-46-025).	<p>Determine if the installation has a sewerage system that receives industrial waste subject to Federal or state pretreatment standards.</p> <p>Verify that the installation implements a pretreatment program for controlling the industrial contributors.</p> <p>Verify that the pretreatment program is approved by the Director.</p> <p>Determine if the installation deposits motor vehicle bodies, chassis, parts, or accessories into the waters of the state for any of the following beneficial uses:</p> <ul style="list-style-type: none"> <li>- land reclamation projects</li> <li>- erosion control projects</li> <li>- the construction of artificial reefs for fishery enhancement under the auspices of the state or Federal fishery management agencies.</li> </ul> <p>Verify that the installation has obtained a valid permit before the deposit of motor vehicle bodies and parts into the waters of the state or in a location where they are likely to escape or be carried into the waters of the state.</p> <p>Verify that the following actions have been taken on any vehicles deposited in state waters:</p> <ul style="list-style-type: none"> <li>- drain oil, fuel, chemicals, and/or lubricants that may pollute the water</li> <li>- remove all glass windows.</li> </ul> <p>Verify that motor vehicle bodies and parts are secured as follows:</p> <ul style="list-style-type: none"> <li>- those used to construct artificial reefs for fishery enhancement are secured in a manner to prevent their displacement</li> <li>- for all other uses, motor vehicle bodies and parts are completely covered and secured with concrete or rock riprap or other equivalent means to prevent their exposure and displacement.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>CLEAN WATER ACT (CWA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>SPILL PREVENTION AND RESPONSE</b></p> <p><b>2-4.</b> Installations must meet specific standards for the reporting, control, and removal of oil spilled into public waters (OAR, Sections 340-47-015(1), (2), 340-47-020(1), and 340-47-025(1)).</p>	<p>(NOTE: Navigable waters of the state for these requirements refer only to the Columbia River, the Willamette River up to Willamette Falls, the Pacific Ocean, and estuaries to the head of tide water.)</p> <p>Verify that installations that spill oil into public waters or onto land that has a substantial likelihood of entering public waters, take the following actions:</p> <ul style="list-style-type: none"> <li>- immediately stop the spilling</li> <li>- immediately collect and remove the spill, or if not feasible, then take all practicable actions to contain, treat, and disperse the spill in a Department-approved manner</li> <li>- immediately correct the cause of the spill</li> <li>- immediately notify the Department of the following: <ul style="list-style-type: none"> <li>- type, quantity, and location of the spill</li> <li>- the corrective and cleanup actions taken and proposed to be taken</li> </ul> </li> <li>- submit a written report to the Department within 7 days that describes all aspects of the spill and steps taken to prevent a recurrence.</li> </ul> <p>(NOTE: Immediate notification of the U.S. Coast Guard of oil spills in marine estuaries and inland navigable waters suffices as notification to the Department.)</p> <p>Verify that the cleanup of oil spills proceeds in a timely and diligent manner until written notice is obtained from the Department that satisfactory cleanup has been achieved.</p> <p>Verify that no chemicals are used to disperse, coagulate, or otherwise treat oil spills except inert absorbent materials or other Department-approved materials.</p> <p>Verify that spilled oils and oil-contaminated material resulting from the control, treatment, and cleanup of the oil spill are handled and disposed of in a Department-approved manner.</p>
<p><b>2-5.</b> Installations with onshore facilities, offshore facilities, or covered vessels must meet oil spill prevention and emergency response plan standards (OAR, Sections 340-47-120, 340-47-130(1), and 340-47-150).</p>	<p>Determine if the installation has onshore facilities, offshore facilities, or covered vessels.</p> <p>Verify that the installation has submitted and implemented an oil spill prevention and emergency response plan.</p> <p>Verify that each onshore and offshore facility, and covered vessel prepare a plan that includes:</p> <ul style="list-style-type: none"> <li>- an amendment log sheet at the front of the plan</li> <li>- an implementation strategy</li> <li>- a spill response system organization</li> <li>- each primary response contractor's name, address, phone number, and response capability that the installation uses</li> <li>- a brief description of this plan's relationship to other plans</li> </ul>

<b>COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>2-5. (continued)</b>	<ul style="list-style-type: none"> <li>- the procedures for spill detection, and immediate notification names and phone numbers in order of priority</li> <li>- response personnel, equipment, operation sites, and flow chart</li> <li>- a description of notification and response operations communication systems</li> <li>- the state, local, and other government authorities responsible for emergency procedures peripheral to spill containment and cleanup</li> <li>- interim storage plans</li> <li>- procedures to protect the health and safety of oil spill response personnel and other individuals onsite</li> <li>- post-spill review procedures</li> <li>- schedules and types of drills and other exercises to ensure readiness</li> <li>- internal call out tests that involve only notification (not actual deployment) performed every 90 calendar days</li> <li>- a list of spill risk variables within the region of operation covered by the plan</li> <li>- a list of environmental variables</li> <li>- a list of the logistic resources within the region of operation covered by the plan</li> <li>- detailed descriptions of plausible step-by-step response scenarios.</li> </ul>
<b>2-6.</b> Installations with onshore or offshore facilities must meet spill prevention strategy standards (OAR, Section 340-47-160).	<p>(NOTE: The Department may allow Spill Prevention Countermeasure and Control (SPCC) plans or other plans prepared to meet other Federal or state requirements to be substituted for the preparation for a plan.)</p> <p>Verify that installations with onshore or offshore facilities develop spill prevention strategies that are either:</p> <ul style="list-style-type: none"> <li>- appended to the oil spill prevention and emergency response plan</li> <li>- stand-alone prevention plan.</li> </ul> <p>Verify that the spill prevention strategies include the following information:</p> <ul style="list-style-type: none"> <li>- documentation of types and frequency of spill prevention training provided to applicable personnel</li> <li>- evidence that the facility has an operations manual</li> <li>- a description of a drug and alcohol awareness program</li> <li>- a description of the use of containment booms at facilities transferring heavy oil</li> <li>- identification of spill prevention technology currently in use</li> <li>- a description of facility site security systems</li> <li>- history of any discharges of oil to the land or waters of the state in excess of 25 barrels (1050 gal) before the 5-yr period prior to the submittal date of the plan</li> <li>- detailed and comprehensive site risk analyses</li> <li>- a description of how the facility will incorporate these measures to provide best achievable protection to address the spill risks identified in the risk analyses</li> <li>- evidence of a maintenance and inspection program.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>2-6. (continued)</b>	<p>Verify that evidence of a maintenance and inspection program includes:</p> <ul style="list-style-type: none"> <li>- a summary of the frequency and type of all regularly scheduled inspection and preventive maintenance procedures for tanks, pipelines, key storage, transfer, or production equipment including associated pumps, valves, and flanges, overpressure safety devices, and other spill prevention equipment</li> <li>- a description of integrity testing of storage tanks and pipelines</li> <li>- external and internal corrosion detection and repair</li> <li>- damage criteria for equipment repair and or replacement</li> <li>- maintenance and inspection records of the storage and transfer facilities.</li> </ul>
<p><b>2-7.</b> Installations with onshore facilities, offshore facilities, or covered vessels must meet plan submittal and approval standards (OAR, Section 340-47-180(1), (2), and 340-47-190).</p>	<p>Verify that plans are submitted to the Department as follows:</p> <ul style="list-style-type: none"> <li>- onshore and offshore facilities on the Columbia and Willamette Rivers capable of storing 10,000 gal or more of oil, submitted by 1 January 1993</li> <li>- covered vessels of 300 gross tons or more that transit the Columbia and Willamette Rivers, submitted by 1 January 1993</li> <li>- any onshore or offshore facility or covered vessel that began operation after 1 January 1993 submits a plan at least 90 days before the beginning of operations.</li> </ul> <p>Verify that submitted plans have been approved.</p>
<p><b>2-8.</b> Installations with onshore facilities, offshore facilities, or covered vessels must meet plan maintenance standards (OAR, Section 340-47-210 and 340-47-220).</p>	<p>Verify that one copy of the plan is kept in a central location accessible at any time by the incident commander or spill response manager named in the plan.</p> <p>Verify that each facility or covered vessel covered by the plan has a copy of the plan kept in a conspicuous and accessible location.</p> <p>Verify that facilities or covered vessels receive approval before conducting any major aspect of the spill response contrary to the plan unless:</p> <ul style="list-style-type: none"> <li>- the actions are necessary to protect human health and safety</li> <li>- the actions must be performed immediately in response to unforeseen conditions to avoid additional environmental damage</li> <li>- the plan holder has been directed to perform these actions by the Department or the U.S. Coast Guard.</li> </ul> <p>Verify that the Department is notified in writing within 24 h of any significant change that could affect implementation of the plan, including a substantial decrease in available spill- response equipment or personnel.</p> <p>Verify that within 30 days of an approved change, the facility or covered vessel has distributed the amended pages of the plan to the Department and other plan holders.</p>

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<p><b>2-8. (continued)</b></p> <p><b>ONSITE SEWAGE DISPOSAL SYSTEMS</b></p> <p><b>2-9.</b> Installations must meet sewage disposal standards that are approved by the Department (OAR, Section 340-71-130(2), (3), (4), (10), (13), (14), and (15)).</p> <p><b>2-10.</b> Installations that construct, alter, or repair a sewage disposal system must have a valid permit (OAR, Section 340-71-160(1), 340-71-175(1), 340-71-175(6), 340-71-205(2), 340-71-210(1), and 340-71-215(3)).</p>	<p>Verify that the installation submits the plan for reapproval at least 90 days in advance of the plan expiration date.</p> <p>Verify that all sewage is treated and disposed of in a manner approved by the Department.</p> <p>Verify that the installation does not discharge untreated or partially treated sewage or septic tank effluent directly or indirectly onto the ground surface or into public waters.</p> <p>Verify that cooling water, air-conditioning water, water softener brine, groundwater, oil, hazardous materials, or roof drainage is not discharged into a sewage disposal system.</p> <p>Verify that all plumbing fixtures in dwellings and commercial facilities from which sewage is or may be discharged from are connected to and discharge into an approved area-wide sewerage system or an approved onsite system.</p> <p>Verify that sewage disposal systems are operated and maintained in a manner that does not create a public health hazard or cause water pollution.</p> <p>Verify that installations with sewage disposal systems with a flow greater than 5000 gal have a valid WPCF permit.</p> <p>Verify that the installation does not dispose of sewage or septage (septic tank pumpings) in any location not authorized by the Department.</p> <p>Verify that installations obtain a valid permit before constructing, altering, repairing, or increasing the design capacity of a sewage disposal system with the exception of emergency repairs.</p> <p>Verify that installations which perform emergency repairs of sewage disposal systems submit a repair permit application within 3 working days after the emergency repair.</p> <p>Verify that the installation receives a Certificate of Satisfactory Completion or Authorization Notice before placing a sewage disposal system in service.</p>

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<p><b>2-11.</b> Installations with sewage disposal systems meeting abandonment standards (OAR, Section 340-71-185).</p>	<p>Verify that installations with sewage disposal systems that meet the following standards are abandoned:</p> <ul style="list-style-type: none"> <li>- the sewerage system becomes available and the building has been connected to it</li> <li>- the source of the sewage has been permanently eliminated</li> <li>- the system has been operated in violation of the regulations</li> <li>- the system has been constructed, installed, altered, or repaired without the required permit</li> <li>- the system has been operated or used without the required Certificate of Satisfactory Completion or Authorization Notice.</li> </ul> <p>Verify that installations meet the following standards for abandoning a sewage disposal system:</p> <ul style="list-style-type: none"> <li>- licensed sewage disposal services pump and remove all sludge from any septic tanks, cesspools, or seepage pits</li> <li>- septic tanks, cesspools, or seepage pits are filled with reject sand, bar gravel, or other material approved by the agent</li> <li>- the system building sewer is permanently capped.</li> </ul>
<p><b>2-12.</b> Installations with graywater waste disposal sumps must meet specific standards (OAR, Section 340-71-325).</p>	<p>Verify that hand-carried graywater disposed in graywater waste disposal sumps that serve facilities such as recreation parks, camp sites, seasonal dwellings, or construction sites, do not have a daily graywater flow that exceeds 10 gal per unit.</p> <p>Verify that graywater or other sewage is not piped to the graywater waste disposal sump.</p> <p>Verify that in campgrounds or other public use areas, graywater waste disposal sumps are identified by a placard or sign as follows:</p> <ul style="list-style-type: none"> <li>- identified as sink waste disposal</li> <li>- letters are not less than 3 in. high and are in a color contrasting with the background.</li> </ul>
<p><b>2-13.</b> Installations with nonwater-carried waste disposal systems must meet specific standards (OAR, Section 340-71-330).</p>	<p>Determine if the installation has a nonwater-carried waste disposal system including any toilet facility that has no direct water connection such as pit privies, vault privies, and portable toilets.</p> <p>Verify that the installation has obtained a prior written approval with the exception of the following facilities:</p> <ul style="list-style-type: none"> <li>- temporary-use pit privies on farms for farm labor</li> <li>- portable toilets installed by a licensed sewage disposal service business.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>2-13. (continued)</b></p> <p><b>CONFINED ANIMAL FEEDING OR HOLDING OPERATIONS</b></p> <p><b>2-14.</b> Installations that construct, operate, or substantially modify a confined feeding or holding operation or waste-control facility must obtain approval from the Department (OAR, Sections 340-51-015, 340-51-020, and 340-51-055).</p> <p><b>2-15.</b> Installations with approved confined animal feeding or holding operations must meet operating standards (OAR, Section 340-51-020, 340-51-055, 340-51-070(2), and 340-51-075).</p>	<p>Verify that no water-carried sewage is placed in nonwater-carried waste disposal facilities.</p> <p>Verify that the contents of nonwater-carried waste disposal facilities are not discharged into storm sewers, on the surface of the ground, or into public waters.</p> <p>Verify that unsealed earth pit-type privies meet the following standards:</p> <ul style="list-style-type: none"> <li>- privy is constructed to prevent surface water from running into the pit</li> <li>- pits that become filled to within 16 in. of the ground surface are backfilled with at least 2 ft of earth.</li> </ul> <p>Verify that the installation has a valid contract with a licensed business for pumping, cleaning, and servicing before installing a portable toilet.</p> <p>Verify that each portable toilet displays the business name of the sewage disposal service responsible for servicing it.</p> <p>Determine if the installation has constructed, operates, or has substantially modified a confined feeding or holding operation or waste-control facility.</p> <p>Verify that the installation has obtained a written approval from the Department.</p> <p>Verify that new, substantially modified, or expanded facilities or operations are constructed in accordance with the plans and specifications as approved in writing by the Department.</p> <p>Verify that confinement areas, manure handling and accumulation areas, and disposal areas and facilities do not contaminate drainage waters.</p> <p>Verify that wastes do not enter the waters of the state at any time except as may be permitted.</p> <p>Verify that roof drainage and uncontaminated surface drainage is diverted and not allowed to flow through confinement areas or enter wastewater holding lagoons, sumps, or tanks unless otherwise approved by the Department.</p>

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<b>2-15. (continued)</b>	<p>Verify that installations with large winter-use confinement areas that are exposed to heavy rainfall and that have limited wastewater storage and disposal capacities, are covered to minimize wastewater volume.</p> <p>Verify that waste collection systems that use water for flushing manure from floors, minimize water use, and that washwater reuse practices are employed where possible.</p> <p>Verify that animal drinking water and atmospheric control sprays are managed so that drainage through contaminated areas is minimized.</p> <p>Verify that the application of manure or manure slurry to land areas is accomplished when air movements are least likely to carry objectionable odors to residential or recreational areas.</p> <p>Verify that manure is not stored or deposited where it can be washed into the surface drainage.</p> <p>Verify that manure solids are not used as a fill or land-raising material where it will pollute ground or surface waters.</p> <p>Verify that all dead animals are promptly collected and disposed of in an approved manner.</p>
<b>2-16.</b> Installations with approved confined animal feeding or holding operations must meet conveyance standards (OAR, Section 340-51-065(2) and (3)).	<p>Verify that trucks or tank wagons carrying manure or manure slurry on public roads have water tight construction and are sufficiently closed or baffled to prevent spillage of any kind.</p> <p>Verify that manure slurry delivery pipelines crossing streams or gullies are permanently placed with adequate protection from streamflow hazards and/or braced to prevent excessive bending stress in the pipe.</p>
<b>UNDERGROUND INJECTION WELLS</b>	
<b>2-17.</b> Installations that construct, place in operation, or operate any waste disposal wells must have a valid WPCF permit (OAR, Sections 340-44-015(1) through (4), 340-44-017(1), and 340-44-055(1)).	<p>Determine if the installation has any of the following types of waste disposal wells that do not require a WPCF permit:</p> <ul style="list-style-type: none"> <li>- cesspool and seepage pits of less than 5000 gal per day capacity</li> <li>- stormwater drains from residential or commercial areas that are not affected by toxic or industrial wastes</li> <li>- sewage drain holes serving less than 20 persons per day</li> <li>- other types of waste disposal wells exempted on a case-by-case basis.</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>2-17. (continued)</b>	<p>Verify that the installation has obtained a valid WPCF permit before the construction, placement in operation, or operation of any waste disposal well not exempted from the permit requirement.</p> <p>Verify that any underground injection activity which may cause pollution of groundwater is approved by the Director.</p> <p>Verify that the installation does not conduct any of the following underground injection activities:</p> <ul style="list-style-type: none"> <li>- wells used to dispose of hazardous waste, or radioactive waste into, above, or below a formation which contains an underground source of drinking water within one-quarter mi of the disposal well hole</li> <li>- wells used to dispose of industrial or municipal wastewater into or below a formation that contains an underground source of drinking water within one-quarter mi of the disposal well hole, excluding those used for oil or gas production</li> <li>- wells used for underground injection activities, other than disposal, that cause pollution of underground waters of the state</li> <li>- wells used for underground injection activities that allow the movement of fluids into an underground source of drinking water if the fluids may cause a violation of any primary drinking water regulation, a significant degradation of public waters, or create a public health hazard.</li> </ul> <p>Verify that the installation obtains a permit from the Department before repairing a plugged or otherwise failing sewage drain hole.</p> <p>Verify that the terms and conditions of the permit are met.</p>
<b>2-18.</b> Installations with discontinued use or abandoned waste-disposal wells must meet abandonment and plugging well standards (OAR, Section 340-44-040).	<p>Determine if the installation has any waste-disposal wells that are abandoned or for which use has been discontinued.</p> <p>Verify that the installation has immediately rendered them completely inoperable by plugging and sealing the hole.</p> <p>Verify that all portions of the well that are surrounded by solid wall formation are plugged and filled with cement grout or concrete.</p> <p>Verify that the top portion of the well is effectively sealed with cement grout or concrete to a depth of at least 18 ft below the surface of the ground or in a manner approved by the Director.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>2-19.</b> Installations with waste-disposal wells used for surface drainage must meet specific well standards (OAR, Section 340-44-050).</p>	<p>Determine if the installation has waste-disposal wells used for storm drainage.</p> <p>Verify that waste-disposal wells for storm drainage are used only in those areas where there is an adequate confinement barrier or filtration medium between the well and an underground source of drinking water and the construction of surface discharging storm sewers is not practical.</p> <p>Verify that new storm drainage disposal wells are constructed as shallow as possible but do not exceed a depth of 100 ft.</p> <p>Verify that new storm drainage disposal wells are located at least 500 ft from any domestic water well.</p> <p>Verify that the storm drainage disposal well is not used for agricultural drainage.</p> <p>Verify that the storage and handling areas of toxic chemicals or petroleum products have containment around the product area that will prevent spillage or leakage from entering the storm drainage disposal well.</p> <p>Verify that the means to temporarily plug or block a storm drainage disposal well are available in the event of an accident or spill.</p> <p>Verify that parking lots that are drained by waste disposal wells are kept clean of petroleum products and other organic or chemical wastes as much as practicable to minimize the degree of stormwater drainage contamination.</p>

<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Clean Water Act (CWA) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 3**

**SAFE DRINKING WATER ACT (SDWA)**

**Oregon Supplement**

# SECTION 3

## SAFE DRINKING WATER ACT (SDWA)

### Oregon Supplement

#### Definitions

These definitions were taken from the Oregon Administrative Rules (OAR) for Public Water Systems.

- *Act* - the *Oregon Drinking Water Act* of 1981 (OAR 448.115-448.990 as amended).
- *Action Level* - the concentration of copper in water which determines, in some cases, the treatment requirements that a water system is required to complete.
- *Administrator* - the administrator of the Health Division of the Oregon Department of Human Resources or his/her designee.
- *Air Gap Separator* - the physical vertical separation between the free-flowing discharge end of a potable water supply pipe line and the open or nonpressure receiving vessel.
- *Approval* - approved in writing.
- *Auxiliary Water Supply* - any supply of water used to augment the supply obtained from the public water system which serves the premise in question.
- *Backflow* - the flow in any direction opposite to the normal flow caused by backsiphonage or back pressure. Back siphonage is caused by negative or reduced pressure in the supply piping. Back pressure occurs when the potable supply is connected to a system or fixture which exceeds the operating pressure of the supply piping.
- *Backflow Prevention Device Assembly* - a backflow prevention device such as a pressure vacuum breaker, a doublecheck valve or a reduced pressure principal device, and the attached shutoff valves on the inlet and the outlet ends of the device assembled as a complete unit.
- *Best Available Technology (BAT)* - the best technology, treatment techniques, or other means which the U.S.Environmental Protection Agency (USEPA) finds (after examination for efficiency under field conditions and not solely under laboratory conditions) are available.
- *Bottled Water* - potable water from a source approved by the Division for domestic use that is placed in small, easily transportable containers.
- *CFR* - Code of Federal Regulations. Specifically, it refers to those sections of the code that deal with the National Primary and Secondary Drinking Water Standards.
- *Check Valve* - a valve that allows flow in only one direction.
- *Coagulation* - a process using coagulant chemicals and mixing, by which a colloid and suspended material are destabilized and agglomerated into a floc.
- *Coliform Positive* - the presence of coliform in a water sample.

- *Community Water System* - see Public Water System.
- *Compliance Cycle* - the 9-yr calendar year cycle during which public water systems must monitor. Each compliance cycle consists of three 3-yr compliance periods. The first calendar year cycle begins 1 January 1993 and ends 31 December 1995. The second cycle begins 1 January 1996 and ends 31 December 1998. The third cycle begins 1 January 1999 and ends 31 December 2001.
- *Confined Well* - a well completed in a confined aquifer. More specifically, it is a well which produces water from a formation that is overlain by an impermeable material of extensive area. This well must be constructed according to OAR Chapter 690, *Well Construction Maintenance Standards*, June 1989.
- *Confluent Growth* - a continuous growth covering the entire filtration area of a membrane filter or a portion thereof, in which bacterial colonies are not discrete.
- *Contaminant* - any physical, chemical, biological, or radiological substance or matter in water.
- *Corrosion Inhibitor* - a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.
- *Cross Connection* - any link or channel between the piping that carries drinking water and the piping or fixtures that carry other water or other substances.
- *CT* - the product of the residual disinfectant concentration C (measured in milligrams per liter) and the disinfectant contact time(s), T (measured in minutes).
- *Disinfectant Contact Time* - the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfection residual measurement to a point before or at the point where residual disinfectant concentration is measured.
- *Disinfection* - a process which inactivates pathogenic organisms water by chemical oxidants or other equivalent agents.
- *Distribution System* - the network of pipes and other facilities that are used to distribute water from a source, treatment, transmission, or storage facility to the user.
- *Division* - the Health Division of the Oregon Department of Human Resources.
- *Dose Equivalent* - the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).
- *Doublecheck Valve Assembly* - an assembly of two independently acting check valves with shutoff valves on each side of the check valve and test cocks for checking the water tightness of each valve.
- *Effective Corrosion Inhibitor Residual* - a concentration sufficient to form a passive film in the interior walls of a pipe.

- *Emergency* - a condition resulting from an unusual calamity such as a flood, storm, earthquake, drought, civil disorder, volcanic eruption, an accidental spill of hazardous material, or other occurrence which disrupts water service at a public water system or endangers the quality of water produced by a public water system.
- *Filtration* - a process for removing particulate matter from water through porous media.
  1. *Conventional Filtration Treatment*- a series of processes including coagulation (requiring the use of a primary coagulant and rapid mix), flocculation, sedimentation, and filtration, resulting in substantial particulate removal
  2. *Direct Filtration Treatment*- a series of processes including coagulation (requiring the use of a primary coagulant and rapid mix) and filtration but excluding sedimentation, resulting in substantial particulate removal
  3. *Slow Sand Filtration*- a treatment process involving passage of raw water through a bed of sand at low velocity (generally less than 235 gal/ft<sup>2</sup> per day), resulting in substantial particulate removal by physical and biological mechanisms
  4. *Diatomaceous Earth Filtration*- a process resulting in substantial particulate removal in which a precoat cake of diatomaceous earth filter media is deposited on a support membrane (septum); while the water is filtered by passing through the cake on the septum, additional filter media, known as body feed, is continuously added to the feedwater to maintain the permeability of the filter cake.
- *First Customer* - the initial service connection or tap on a public water supply after any treatment process.
- *First Draw Sample* - a 1-L sample of water that has been standing in plumbing pipes at least 6 h and is collected without flushing the tap.
- *Flocculation* - a process to enhance agglomeration or collection of smaller particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.
- *Gross Alpha Particle Activity* - the total radioactivity due to alpha particle emission as inferred from measurement on a dry sample.
- *Gross Beta Particle Activity* - the total radioactivity due to a beta particle emission as inferred from measurement on a dry sample.
- *Groundwater Under the Direct Influence of Surface Water* - any water beneath the surface of the ground with either:
  1. significant occurrences of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia Lamblia*
  2. significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlates to surface water conditions.
- *Impermeable Material* - a material that limits the passage of water.
- *Impounding Reservoir* - an uncovered body of water formed behind a dam across a river or stream, in which water is stored.
- *Initial Compliance Period* - the first full 3-yr compliance period which begins at least 18 mo after promulgation.

- *Lead Free* - when used with respect to solders and flux, means solders and flux containing not more than 0.2 percent lead; when used with respect to pipes, any fittings containing not more than 8 percent lead.
- *Lead Service Line* - a service line made of lead that connects the water main to the building inlet and any pigtail, gooseneck, or other fitting that is connected to a lead line.
- *Legionella* - a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires disease.
- *Major Additions or Modifications* - changes of considerable extent or complexity including, but not limited to, projects involving water sources, treatment facilities, facilities for continuous disinfection, finished water storage, pumping facilities, transmission mains, distribution mains, and main replacement of same length and diameter.
- *Man-Made Beta Particle and Photon Emitters* - all radionuclides emitting beta particles and/or photons listed on Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, National Bureau of Standards (NBS) Handbook 69, except the daughter products of Thorium-232, Uranium-235, and Uranium-238.
- *Master Plan* - an overall plan that shows the projected development of a distribution system and alternatives for source development.
- *Maximum Contamination Level (MCL)* - the maximum allowable level of a contaminant in a water delivered to users of a public water system, (except in the case of turbidity where the maximum allowable level is measured at the point of entry into a distribution system. Contaminants occurring in the water resulting from circumstances controlled by the water user except those resulting from corrosion of piping and plumbing caused by water are excluded from this definition).
- *Noncommunity Water System* - see Public Water Systems.
- *Nontransient Noncommunity Water System* - see Public Water Systems.
- *Optimum Corrosion Control Treatment* - the corrosion control treatment that minimizes lead and copper concentrations at the users tap while ensuring that the treatment does not cause the water system to violate any national primary drinking water standards.
- *Pathogenic* - a specific agent (bacterium, virus, or parasite) causing or capable of causing disease.
- *Peak Daily Demand* - the maximum rate of water use, expressed in gallons per day, over the 24-h period of heaviest consumption.
- *Permit* - official permission granted by the Division for a public water system that exceeds MCLs to delay, because of economic or other compelling factors, the installation of water treatment facilities that are necessary to produce water that does not exceed MCLs.
- *Person* - includes any individual, corporation, association, firm or partnership, municipal, state, or Federal agency, or joint stock company, and includes any receiver, special master, trustee, assignee, or other similar representative thereof.
- *Picocurie (pCi)* - the quantity of radioactive material producing 2.22 nuclear transformations per minute.



- *Plug Flow* - movement of water in a pipe such that particles pass through the pipe and are discharged in the same sequence in which they entered.
- *Point of Disinfection Application* - the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.
- *Point-of-Entry Treatment Device* - the treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building.
- *Point-of-Use Treatment Device* - a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.
- *Potable Water* - See Safe Drinking Water
- *Public Health Hazard* - a condition, device, or practice that is conducive to the introduction of water-borne disease organisms, or harmful chemical, physical, or radioactive substances into a public water system, and that presents an unreasonable risk to health.
- *Public Water System* - a system for the provision to the public of piped water for human consumption, if such a system has more than three service connections or supplies water to a public or commercial establishment that operates a total of at least 60 days per year, and that is used by 10 or more individuals per day or is a facility licensed by the Division. A public water system is either a community water system, a noncommunity water system, or a nontransient noncommunity water system:
  1. Community Water System- a public water system that has 15 or more service connections used by year-round residents, or that regularly serves 25 or more year-round residents
  2. Noncommunity Water System- a public water system that is not a community water system
  3. Nontransient Noncommunity Water System (NTNCWS)- a public water system that is not a community water system that regularly serves at least 25 of the same persons 6 mo/yr.
- *Purchasing Water System* - a public water system that obtains its water in whole or in part from another public water system.
- *Reduced-Pressure Principal Backflow Prevention Device* - a device for preventing backflow that has two check valves, two shutoff valves (one on the upstream side and the other on the downstream side of the check valves) and four test cocks for checking the watertightness of the check valves and the operation of the relief valve.
- *Rem* - the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A millirem (mrem) is 1/1000 of a rem.
- *Repeat Compliance Period* - any subsequent compliance period after the initial compliance period.
- *Residual Disinfectant Concentration* - the concentration of disinfectant measured in milligrams per liter in a representative sample of water.
- *Safe Drinking Water* - water that has sufficiently low concentrations of microbiological, inorganic chemical, organic chemical, radiological, or physical substances so that individuals drinking water at normal levels of consumption will not be exposed to disease organisms or other substances that may produce harmful physiological effects.
- *Sanitary Survey* - an onsite review of the water source, watershed, facilities, equipment, operation, and maintenance of the water system to produce and distribute safe drinking water.

- *Secondary Contaminant* - those contaminants that, at levels generally found in drinking water, do not represent an unreasonable risk to health but do at least one of the following:
  1. Have adverse effects on the taste, odor, and color of water
  2. Produce undesirable staining of plumbing fixtures
  3. Interfere with treatment processes applied by water suppliers.
- *Secondary Maximum Contaminant Level* - the level of a secondary contaminant that when exceeded may adversely effect the aesthetic quality of the drinking water which thereby may deter public acceptance of drinking water provided by public water systems or may interfere with water treatment methods.
- *Sedimentation* - a process for removal of solids before filtration by gravity or separation.
- *Service Connection* - the piping connection through which water is conveyed from a distribution main of a public water system to a user's premises. For a community water system, the portion of a service connection that conveys water from the distribution main to the user's property line, or to the service meter where provided, under the jurisdiction of the water supplier.
- *Single Connection* - a public water system serving only one installation, such as a restaurant, campground, or place of employment.
- *Single Family Structure* - a building constructed as a single family residence.
- *Spring* - a naturally occurring discharge of flowing water at the ground surface, or in surface water. Springs can be derived from groundwater or they can be surface water influenced.
- *Surface Water* - all water that is open to the atmosphere and subject to surface water runoff.
- *Too Numerous to Count* - the total number of bacterial colonies exceeds 200 on a 47 mm diameter membrane filter used for coliform bacteria detection.
- *Turbidity* - a measure of the cloudiness of water caused by suspended particles. The units of measure for turbidity are nephelometric turbidity units (NTU).
- *U.S. Environmental Protection Agency (USEPA)* - the U.S. Environmental Protection Agency.
- *Virus* - a virus of fecal origin that is infectious to humans by waterborne transmission.
- *Water Source* - any lake, stream, spring, groundwater supply, impoundment, or other source of water from which water is obtained for a public water system. In some cases, a public water system can be the source of supply for one or more other public water systems.
- *Water Supplier* - a person, group of persons, municipality, district, corporation, or other entity that owns or operates a public water system.
- *Water System* - a system for the provision of piped water for human consumption.
- *Waterborne Disease Outbreak* - the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system that is deficient in treatment, as determined by the Division.

# SAFE DRINKING WATER ACT (SDWA)

## GUIDANCE FOR OREGON CHECKLIST USERS

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Inorganic Chemicals	3-1 through 3-7
Inorganic Chemicals - Lead and Copper	3-8 through 3-15
Inorganic Chemicals - Nitrate and Nitrite	3-16 through 3-18
Organic Chemicals	3-19 through 3-21
Organic Chemicals - Endrin	3-22 and 3-23
Unregulated Organic Chemicals	3-24
Organic Chemicals - Trihalomethanes	3-25 through 3-27
Volatile Organic Chemicals (VOCs)	3-28 through 3-30
Turbidity	3-31
Microbiological Contaminants	3-32 through 3-36
Radioactive Contaminants	3-37 through 3-41
Secondary Contaminants	3-42
Acrylamide and Epichlorohydrin	3-43
Disinfectant Residuals	3-44
Supplemental Fluoridation	3-45
Surface Water Treatment Standards	3-46
Surface Water Systems Without Filtration	3-47 through 3-53
Surface Water Systems With Filtration	3-54 through 3-56
Corrosion Control	3-57 and 3-58
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Reporting and Recordkeeping	3-60 through 3-64
Public Notification	3-65 through 3-67

**SAFE DRINKING WATER ACT (SDWA)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**  
(continued)

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Public Notification for Lead	3-68 through 3-71
Operation and Maintenance	3-72
Cross Connections	3-73

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>INORGANIC CHEMICALS</b></p> <p><b>3-1.</b> Installations with water systems must initially monitor for inorganic chemicals by a specific date (OAR, Section 333-61-036(2)(l)).</p> <p><b>3-2.</b> Water systems must meet MCL standards for inorganic chemicals (OAR, Sections 333-61-030(1), 333-61-036(2)(i)(A), (2)(i)(C), and (2)(k)).</p>	<p>Verify that installations with community and nontransient noncommunity water systems monitor for inorganic chemicals according to the following schedule:</p> <ul style="list-style-type: none"> <li>- 300 or more persons served, begin initial monitoring 1 January 1993, complete initial monitoring by 31 December 1993</li> <li>- between 100 and 299 persons served, begin initial monitoring 1 January 1994, complete initial monitoring by 31 December 1994</li> <li>- less than 100 persons served, begin initial monitoring 1 January 1995, complete initial monitoring by 31 December 1995.</li> </ul> <p>Verify that public water systems do not exceed the MCLs for inorganic chemicals listed in Appendix 3-1.</p> <p>Verify that community and nontransient noncommunity public water systems do not exceed a lead action level of 0.015 mg/L in more than 10 percent of tap water samples.</p> <p>Verify that community and nontransient noncommunity public water systems do not exceed a copper action level of 1.3 mg/L in more than 10 percent of the tapwater samples.</p> <p>Verify that water systems base compliance with inorganic chemical MCLs upon:</p> <ul style="list-style-type: none"> <li>- for monitoring conducted at a frequency more often than annually, compliance with MCLs is determined by a running annual average at each sampling point</li> <li>- for monitoring conducted annually or less frequently, the water system is noncompliant if the level of any contaminant at any sampling point is greater than the MCL.</li> </ul> <p>Verify that water systems which exceed the MCLs for inorganic chemicals report the analysis results to the Division within 48 h and initiate public notification procedures.</p> <p>(NOTE: The Division may require water samples that exceed the MCL for an inorganic chemical to take an additional sample within 2 weeks from the same sampling point and the initial sample and confirmation sample averaged to determine the system's compliance.)</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-3.</b> Water systems must meet monitoring standards for the inorganic chemicals barium, cadmium, chromium, fluoride, mercury, and selenium (OAR, Section 333-61-036(2)(a)(A), (2)(a)(B), and (2)(a)(D)).</p>	<p>Verify that community and nontransient noncommunity water systems that use surface water sources solely or a combination of surface and groundwater sources, sample for these inorganic chemicals annually beginning in the compliance period 1 January 1993.</p> <p>Verify that community and nontransient noncommunity water systems using groundwater sample for these inorganic chemicals once every 3 yr beginning in the compliance period 1 January 1993.</p> <p>Verify that all other noncommunity water systems collect samples once beginning in the first compliance period starting 1 January 1993.</p> <p>Verify that samples are taken at each point in the distribution system representative of each source after treatment or at entry points into the distribution system after any application of treatment.</p> <p>(NOTE: The water systems must take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.)</p> <p>(NOTE: The Division may allow composting of samples from a maximum of five sampling points provided the samples are composted in the laboratory and analyzed within 14 days of collection.)</p> <p>Verify that systems which exceed the MCL for monitoring these inorganic chemicals begin monitoring quarterly in the next quarter after the violation began.</p>
<p><b>3-4.</b> Water systems must meet the monitoring standards for arsenic (OAR, Section 333-61-036(2)(b)).</p>	<p>Verify that water systems analyze the water delivered to users for arsenic as follows:</p> <ul style="list-style-type: none"> <li>- community and nontransient noncommunity water systems with surface water sources, once per year per source</li> <li>- community and nontransient noncommunity water systems with groundwater sources, once every 3 yr/source</li> <li>- noncommunity water systems, one analysis from each source.</li> </ul> <p>Verify that water systems which exceed the MCL for arsenic report the analysis results to the Division within 48 h.</p>
<p><b>3-5.</b> Water systems must meet the monitoring standards for asbestos (OAR, Section 333-61-036(2)(d)).</p>	<p>Verify that community and nontransient noncommunity water systems sample for asbestos at least once during the initial 3-yr compliance period starting 1 January 1993.</p> <p>Verify that water systems which exceed the MCL for asbestos monitor quarterly beginning in the next quarter after the violation has occurred.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-6.</b> Water systems must meet the monitoring standards for sodium (OAR, Section 333-61-036(2)(h)).</p> <p><b>3-7.</b> Water systems must meet monitoring standards for the unregulated inorganic chemicals antimony, beryllium, nickel, sulfate, thallium, and cyanide (OAR, Section 333-61-036(2)(c)(A)(i) and (2)(c)(D)).</p>	<p>Verify that samples of water that are delivered to users are analyzed for sodium as follows:</p> <ul style="list-style-type: none"> <li>- community and nontransient noncommunity water systems with surface water sources, once per year per source</li> <li>- community and nontransient noncommunity water systems with groundwater sources, once every 3 yr/source.</li> </ul> <p>Verify that community and nontransient noncommunity water systems analyze the water delivered to users for these unregulated organics as follows:</p> <ul style="list-style-type: none"> <li>- water sampled at each point in the distribution system representative of each source after treatment or at entry points to the distribution system after any application of treatment</li> <li>- one sample collected at each sampling point beginning in the compliance period starting 1 January 1993.</li> </ul> <p>(NOTE: The water systems shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.)</p> <p>(NOTE: The Division may allow composting of samples from a maximum of 5 sampling points provided the samples are composted in the laboratory and analyzed within 14 days of collection.)</p>
<p><b>INORGANIC CHEMICALS - LEAD AND COPPER</b></p> <p><b>3-8.</b> Community and nontransient noncommunity water systems must initiate lead and copper tapwater sample by specific dates (OAC, Section 333-61-036 (2)(e)(D)).</p>	<p>Verify that community and nontransient noncommunity water systems collect initial lead and copper tap samples for the first 6-mo monitoring period by the following dates:</p> <ul style="list-style-type: none"> <li>- large systems serving more than 50,000 persons, 1 January 1992</li> <li>- medium systems serving 3301 to 50,000 persons, 1 July 1992</li> <li>- small systems serving less than 3301 persons, 1 July 1993.</li> </ul> <p>Verify that all large water systems serving more than 50,000 persons monitor during 2 consecutive 6-mo periods.</p> <p>Verify that medium and small water systems monitor for lead and copper in tap water during each 6-mo period until the system exceeds the lead or copper action levels and is required to implement corrosion control treatment.</p> <p>(NOTE: Verify that small or medium water systems that serve less than 50,000 persons which meet the lead and copper action levels for two consecutive 6-mo monitoring periods may reduce monitoring to once per year.)</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-9.</b> Water systems that install a corrosion control and sourcewater treatment must meet lead and copper tapwater monitoring standards (OAC, Section 333-61-036(2)(e)(D)(ii)).</p> <p><b>3-10.</b> Community and nontransient noncommunity water systems must meet site-sampling standards for analysis of lead and copper in the system's tapwater (OAR, Section 333-61-036(2)(e)(A)).</p>	<p>Verify that large water systems which install optimal corrosion control treatment monitor for lead and copper in tapwater during two consecutive 6-mo periods by 1 January 1998.</p> <p>Verify that for medium and small water systems which install optimal corrosion control treatment, the system monitors for lead and copper in the tap water during two consecutive 6-mo periods within 36 mo of being required by the Division to install optimal corrosion control treatment.</p> <p>Verify that for water systems which install sourcewater treatment, the system monitors for lead and copper in the tapwater during two consecutive 6-mo periods within 36 mo of being required by the Division to install the sourcewater treatment.</p> <p>Verify that water systems monitor during each subsequent 6-mo monitoring period, with the first monitoring period beginning on the date the Division specified the optimal corrosion control values.</p> <p>(NOTE: Sampling sites must not include faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants.)</p> <p>Verify that water systems meet the following criteria for selecting lead and copper tapwater sampling sites:</p> <ul style="list-style-type: none"> <li>- community water systems sample from tier 1 sampling sites including single family structures that contain copper pipes with lead solder installed between 1 January 1983 and 30 June 1985 or contain lead pipes</li> <li>- community water systems with insufficient tier 1 sampling sites complete the sampling pool with tier 2 sampling sites consisting of buildings, including multiple-family residences that contain copper pipes with lead solder installed between 1 January 1983 and 30 June 1985 or contain lead pipes</li> <li>- community water systems with insufficient tier 2 sampling sites complete the sampling pool with tier 3 sampling sites consisting of single family structures that contain copper pipes with lead solder installed before 1983</li> <li>- nontransient noncommunity water systems sample from tier 1 sampling sites</li> <li>- nontransient noncommunity water systems with insufficient tier 1 sampling sites complete the sampling pool with sites that contain copper pipes with lead solder installed before 1983.</li> </ul> <p>Verify that water systems with the following sampling pools insufficiencies submit an explanation letter to the Division:</p> <ul style="list-style-type: none"> <li>- water systems that do not consist exclusively of tier 1 sampling sites</li> <li>- community water systems that include tier 3 sampling sites in their sampling pool</li> </ul>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-10. (continued)</b></p> <p><b>3-11.</b> Water systems must meet sample collection standards for lead and copper monitoring in tapwater (OAC, Section 333-61-036(2)(e)(B) and (2)(e)(C)).</p> <p><b>3-12.</b> Water systems must meet specific requirements for reduced lead and copper monitoring in tapwater (OAR, Section 333-61-036(2)(e)(D)(iv)).</p>	<p>(NOTE: Community water systems with multiple family residences comprising at least 20 percent of the structures served by a water system may include multiple family residences in their tier 1 sampling pool.)</p> <p>Verify that all tap samples for lead and copper are first draw samples.</p> <p>Verify that each first draw sample is 1 L in volume and has stood motionless in the plumbing system of each sampling site for at least 6 h.</p> <p>Verify that first draw samples meet the following collection criteria:</p> <ul style="list-style-type: none"> <li>- for residential housing, collected from cold water kitchen tap or bathroom sink tap</li> <li>- for nonresidential building, first draw samples are collected at an interior tap from which water is typically drawn for consumption</li> <li>- the same sampling site from which a previous sample was collected or another proximal sampling site if the original sampling site is inaccessible.</li> </ul> <p>(NOTE: Systems may allow residents to collect the first-draw samples.)</p> <p>Verify that water systems collect at least one sample during each monitoring period from the following number of sites:</p> <ul style="list-style-type: none"> <li>- more than 100,000 persons served, 100 sites</li> <li>- 10,001 to 100,000 persons served, 60 sites</li> <li>- 3301 to 10,000 persons served, 40 sites</li> <li>- 501 to 3300 persons served, 20 sites</li> <li>- 101 to 500 persons served, 10 sites</li> <li>- less than 100 persons served, 5 sites.</li> </ul> <p>Determine if the water system is subject to reduced lead and copper monitoring.</p> <p>Verify that the water system meets one of the following standards:</p> <ul style="list-style-type: none"> <li>- the system has Division approval</li> <li>- medium and small water systems that serve less than 50,000 persons meet the lead and copper action levels during each of two consecutive 6-mo monitoring periods.</li> </ul> <p>(NOTE: Medium and small water systems subject to reduced monitoring may reduce monitoring to once a year.)</p> <p>Verify that the water system collects lead and copper tap samples during the months of June, July, August, or September.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-12. (continued)</b>	<p>Verify that the water system collects at least one sample during each monitoring period from the following number of sites:</p> <ul style="list-style-type: none"> <li>- more than 100,000 persons served, 50 sites</li> <li>- 10,001 to 100,000 persons served, 30 sites</li> <li>- 3301 to 10,000 persons served, 20 sites</li> <li>- 501 to 3300 persons served, 10 sites</li> <li>- 101 to 500 persons served, 5 sites</li> <li>- less than 100 persons served, 5 sites.</li> </ul> <p>Verify that medium or small water systems which exceed the lead or copper action levels resume nonreduced monitoring number and frequencies.</p>
<b>3-13.</b> Water systems that exceed lead or copper action levels must meet additional water quality parameter monitoring standards (OAR, Section 333-61-036(2)(e)(F)).	<p>Determine if the water system is required to monitor and exceed the lead or copper action levels.</p> <p>Verify that the following locations are used for sample collection to monitor water quality parameters:</p> <ul style="list-style-type: none"> <li>- tap samples representative of water quality throughout the distribution system</li> <li>- samples collected at entry point(s) to the distribution are from locations representative of each source after treatment.</li> </ul> <p>(NOTE: Tap sampling is not required to be conducted at taps targeted for lead and copper sampling; however, established coliform sampling sites may be used.)</p> <p>Verify that water systems collect two tap samples during each monitoring period for the following number of sites:</p> <ul style="list-style-type: none"> <li>- more than 100,000 persons served, 25 sites</li> <li>- 10,001 to 100,000 persons served, 10 sites</li> <li>- 3301 to 10,000 persons served, 3 sites</li> <li>- 501 to 3300 persons served, 2 sites</li> <li>- 101 to 500 persons served, 1 site</li> <li>- less than 100 persons served, 1 site.</li> </ul> <p>Verify that during the initial sampling, water systems collect two samples for each of the following applicable water quality parameters at each entry point to the distribution system during each 6-mo monitoring period:</p> <ul style="list-style-type: none"> <li>- pH</li> <li>- alkalinity</li> <li>- orthophosphate when an inhibitor containing a phosphate compound is used</li> <li>- silica when an inhibitor containing a silicate compound is used</li> <li>- calcium</li> <li>- conductivity</li> <li>- water temperature.</li> </ul>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>3-13. (continued)</b></p>	<p>Verify that during subsequent sampling, large water systems which install optimal corrosion control treatment collect the following samples for each 6-mo monitoring period:</p> <ul style="list-style-type: none"> <li>- at taps, two samples for the following: <ul style="list-style-type: none"> <li>- pH</li> <li>- alkalinity</li> <li>- orthophosphate when an inhibitor containing a phosphate compound is used</li> <li>- silica when an inhibitor containing a silicate compound is used</li> <li>- calcium, when calcium carbonate stabilization is used as part of corrosion control</li> </ul> </li> <li>- at each entry point to the distribution system, one sample every 2 weeks to test for the following: <ul style="list-style-type: none"> <li>- pH</li> <li>- when alkalinity is adjusted as part of optimal corrosion control, the chemical concentration and dosage rate used to adjust alkalinity</li> <li>- when a corrosion inhibitor is used as part of optimal corrosion control, the dosage rate of the inhibitor used</li> <li>- the concentration of orthophosphate or silica (whichever is applicable).</li> </ul> </li> </ul> <p>Verify that during subsequent sampling, small or medium water systems which install optimal corrosion control treatment meet the sampling standards for large water systems which install optimal corrosion control treatment for each 6-mo monitoring period that the system exceeds the lead or copper action level.</p> <p>(NOTE: Water systems may take a confirmation sample provided it is collected within 3 days after the first sample and the result is averaged with the first sampling result and used for any compliance determinations.)</p> <p>Verify that water systems subject to reduced monitoring continue to monitor at the entry point(s) to the distribution system by collecting two samples for applicable water quality parameters from the following number of sites during each 6-mo period:</p> <ul style="list-style-type: none"> <li>- greater than 100,000 persons served, 10 sites</li> <li>- 10,001 to 100,000 persons served, 7 sites</li> <li>- 3301 to 10,000 persons served, 3 sites</li> <li>- 501 to 3300 persons served, 2 sites</li> <li>- 101 to 500 persons served, 1 site</li> <li>- less than 100 persons served, 1 site.</li> </ul> <p>Verify that water systems which conduct sampling annually, collect the samples evenly throughout the year so as to reflect seasonal variability.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-14.</b> Water systems must meet specific monitoring requirements for lead and copper in sourcewater (OAR, Section 333-61-036(2)(e)(H) and (2)(e)(I)).</p> <p><b>3-15.</b> Water systems for which the Division has specified a maximum permissible sourcewater level or for which sourcewater treatment is not needed must meet sourcewater monitoring frequency standards (OAR, Section 333-61-036(2)(e)(J) and (2)(e)(K)).</p>	<p>Verify that systems which exceed the lead or copper action level at the tap collect one sourcewater sample from each entry point to the distribution system within 6 mo after the exceedance.</p> <p>Verify that water systems which are required to install sourcewater treatment collect an additional sourcewater sample from each entry point to the distribution system during two consecutive 6-mo monitoring periods within 36 mo.</p> <p>Determine if the Division has specified for the water system a maximum permissible sourcewater level for copper and lead or if sourcewater treatment is not needed.</p> <p>Verify that water systems using groundwater collect samples once during the 3-yr compliance period and once during each subsequent compliance period.</p> <p>Verify that water systems using surface water or a combination of surface and groundwater collect samples once during each year, the first annual monitoring period to begin on the date on which the applicable Division determination is made.</p> <p>(NOTE: A system is not required to conduct sourcewater sampling for lead and/or copper if the system meets the action level for the specific contaminant in tapwater samples during the entire sourcewater sampling period applicable to the system in this section.)</p> <p>(NOTE: Water systems may be allowed to reduce monitoring frequency for lead and/or copper to once during each 9-yr compliance cycle.)</p>
<p><b>INORGANIC CHEMICALS - NITRATE AND NITRITE</b></p> <p><b>3-16.</b> Water systems must meet monitoring standards for nitrate (OAR, Section 333-61-036(2)(f)).</p>	<p>Verify that community and nontransient noncommunity water systems using surface water sources monitor for nitrate quarterly, beginning 1 January 1993.</p> <p>Verify that community and nontransient noncommunity water systems using groundwater sources monitor for nitrate annually beginning 1 January 1993.</p> <p>Verify that noncommunity water systems monitor for nitrate annually beginning 1 January 1993.</p> <p>Verify that following the initial round of quarterly sampling for nitrate, community and nontransient noncommunity water systems which monitor annually collect samples during the quarter that previously resulted in the highest analytical result.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-16. (continued)</b></p> <p><b>3-17.</b> Water systems must meet monitoring standards for nitrite (OAR, Section 333-61-036(2)(g)).</p> <p><b>3-18.</b> Water systems that exceed the MCL for nitrate or nitrite must take specific steps (OAR, Section 333-61-036(2)(i)(B)).</p>	<p>(NOTE: The Division may allow reduced nitrate monitoring or require increased monitoring if a sample has a nitrate concentration equal to or greater than 50 percent of the MCL.)</p> <p>Verify that community, nontransient noncommunity, and noncommunity water systems collect one sample at each sampling point for nitrite during the compliance period beginning 1 January 1993.</p> <p>(NOTE: The Health Division will require quarterly monitoring for 1 yr following any one sample that is equal to or greater than 50 percent of the MCL.)</p> <p>Verify that after the initial nitrite sample, water systems with analytical results for nitrite that are less than 50 percent of the MCL. monitor once during each subsequent compliance period unless otherwise directed by the Division.</p> <p>Verify that systems monitoring annually take each subsequent sample during the quarter(s) that previously resulted in the highest analytical result.</p> <p>Verify that water systems exceeding the MCL for nitrate or nitrite collect one additional sample within 24 h of notification of the results of the initial sample at the same sampling point.</p> <p>Verify that systems unable to take an additional sample within 24 h notify water system users and collect one additional sample within 2 weeks of notification of the results of the initial sample.</p>
<p><b>ORGANIC CHEMICALS</b></p> <p><b>3-19.</b> Installations with water systems must initially monitor for regulated, unregulated, and volatile organic chemicals VOCs by a specific date (OAR, Section 333-61-036(3)(a)(I)).</p> <p><b>3-20.</b> Installations with water systems must not exceed the MCLs for organic chemicals (OAR, Section 333-61-030(2)(a)).</p>	<p>Verify that installations with community and nontransient noncommunity water systems monitor for organic chemicals according to the following schedule:</p> <ul style="list-style-type: none"> <li>- 300 or more persons served, begin initial monitoring 1 January 1993, complete initial monitoring by 31 December 1993</li> <li>- between 100 and 299 persons served, begin initial monitoring 1 January 1994, complete initial monitoring by 31 December 1994</li> <li>- less than 100 persons served, begin initial monitoring 1 January 1995, complete initial monitoring by 31 December 1995.</li> </ul> <p>Verify that community and nontransient noncommunity water systems do not exceed the MCLs for organic chemicals listed in Appendix 3-2.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-21.</b> Samples of water delivered to users must meet regulated organic chemical analyzation standards excluding endrin (OAR, Section 333-61-036(3)(a)(A), and (3)(a)(C) through (3)(a)(G)).</p>	<p>Verify that community and nontransient noncommunity water systems sample for unregulated organic chemicals as follows:</p> <ul style="list-style-type: none"> <li>- sample at each point in the distribution system representative of each source after treatment or at entry points to the distribution system after any application of treatment</li> <li>- samples are collected quarterly at each sampling point beginning with the compliance period starting 1 January 1993</li> <li>- each sample is taken from the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.</li> </ul> <p>(NOTE: Systems that serve a population of less than 3300 are not required to take additional samples before 1 October 1993 if the first quarterly sample has no detections.)</p> <p>(NOTE: The Division may reduce the sampling frequency for systems that do not detect a contaminant in the initial compliance period starting 1 January 1993.)</p> <p>Verify that water systems with a contaminant that equals to or exceeds the minimum detection limits listed in Appendix 3-3 monitor quarterly at each sampling point where a detection occurred.</p> <p>(NOTE: The Division may reduce the monitoring frequency for organic chemicals to annual monitoring.)</p> <p>Verify that water systems which are allowed to monitor annually monitor during the quarter that previously yielded the highest analytical result.</p> <p>Verify that water systems exceeding the MCL for organic chemicals monitor quarterly until a minimum of four quarterly samples show the system to be reliably and consistently below the MCL prior to returning to annual monitoring.</p> <p>(NOTE: The Division may allow composting of samples from a maximum of five sampling points provided the samples are composted in the laboratory and analyzed within 14 days of collection.)</p> <p>(NOTE: For systems that collect more than four samples a year, compliance is determined by a running average of all samples taken at each sampling point. The system is noncompliant when the annual average at any sampling point exceeds the MCL for any contaminant.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>ORGANIC CHEMICALS - ENDRIN</b></p> <p><b>3-22.</b> Samples of water delivered to users must meet organic chemical analyzation standards in regards to endrin (OAR, Section 333-61-036(3)(b)(A)).</p> <p><b>3-23.</b> Water systems that exceed the MCL for organic chemicals must meet additional analysis and reporting standards (OAR, Section 333-61-036(3)(b)(B) through (C)).</p>	<p>Verify that samples of water which are delivered to users are analyzed for organic chemicals as follows:</p> <ul style="list-style-type: none"> <li>- for community water systems using surface water sources, collect samples during the period of the year designated by the division that pesticide contamination is most likely to occur</li> <li>- for community water systems using groundwater sources, have analyses completed by systems specified by the Division at Division-specified frequencies.</li> </ul> <p>Verify that water system which exceeding the MCL for organic chemicals do the following:</p> <ul style="list-style-type: none"> <li>- report the analysis results to the Division within 48 h</li> <li>- initiate within 1 mo additional analyses on three check samples collected from the same point for the contaminants that exceeded the MCL.</li> </ul> <p>Verify that water systems with an average of the four analyses exceeding the MCL prescribed by the Division notify the public.</p> <p>Verify that monitoring after public notification continues until the MCL has not been exceeded in two consecutive samples or until a variance, permit, or enforcement action becomes effective.</p>
<p><b>UNREGULATED ORGANIC CHEMICALS</b></p> <p><b>3-24.</b> Samples of water delivered to users must be analyzed for unregulated organic chemicals (OAR, Section 333-61-036(3)(c)).</p>	<p>Verify that samples of water delivered to users are analyzed for the unregulated organic chemicals listed in Appendix 3-4.</p> <p>Verify that community and nontransient noncommunity water systems meet the following sampling standards for unregulated organic chemicals:</p> <ul style="list-style-type: none"> <li>- sample at each point in the distribution system representative of each source after treatment or at entry points to the distribution system after any application of treatment</li> <li>- collect four consecutive quarterly samples at each sampling point beginning with the compliance period starting 1 January 1993</li> <li>- sample from the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.</li> </ul> <p>Verify that community and nontransient noncommunity water systems with fewer than 150 service connections have submitted a letter by 1 January 1994 for a unregulated organic chemicals monitoring waiver.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<b>3-24. (continued)</b>	(NOTE: For systems serving a population of less than 3300, no additional samples are required before 1 October 1993 if the first quarterly sample has no detection.)  (NOTE: The Division may allow composting of samples from a maximum of five sampling points provided the samples are composted in the laboratory and analyzed within 14 days of collection.)
<b>ORGANIC CHEMICALS - TRIHALOMETHANES (THMs)</b>	
<b>3-25.</b> Samples of water delivered to users must be analyzed for total trihalomethanes (TTHMs) (OAR, Sections 333-61-030(2)(b) and 333-61-036(3)(d)(A)(i)).	Determine if the installation has a community water system serving a population of 10,000 or more individuals and adds a disinfectant (oxidant) to the drinking water treatment process.  Verify that the community water system analyzes for TTHM as follows: <ul style="list-style-type: none"> <li>- at quarterly intervals</li> <li>- four water samples are collected for each water source used by the system</li> <li>- at least 25 percent of the samples collected from distribution system locations reflect the maximum residence time of the water in the system</li> <li>- the remaining 75 percent of samples are collected from representative locations.</li> </ul> <p>Verify that all samples taken within an established frequency are collected within a 24-h period.</p> <p>Verify that TTHM MCL compliance is calculated on the running annual average of quarterly analyses of the sum of the concentrations of bromodichloromethane, dibromochloromethane, tribromomethane (bromoform), and trichloromethane (chloroform).</p> <p>Verify that the results of all analyses obtained each quarter are reported to the Division.</p> <p>(NOTE: The Division may reduce the monitoring frequency for TTHM.)</p>
<b>3-26.</b> Community water systems that exceed the MCL for TTHM must meet monitoring and notification standards (OAR, Section 333-61-036(3)(d)(A)(i) and (3)(d)(B)).	Determine if the average of the samples collected for any 12-mo period for the water system exceeds the MCL for TTHM of 0.10 mg/L.  Verify that the community water system reported the violation to the Division and notified the public.  Verify that community water systems which have exceeded the MCL for TTHMs monitor at a frequency set by the Division until a monitoring schedule, as a condition to a variance, permit, or enforcement action becomes effective.



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>3-27.</b> Community water systems subject to reduced TTHM monitoring must meet specific standards (OAR, Section 333-61-036(3)(d)(A)(iii) through (3)(d)(A)(v)).</p>	<p>Determine if the community water system is subject to reduced TTHM monitoring.</p> <p>Verify that sampling for maximum TTHM potential is done at least once a year for every treatment plant used by the system, taken at a point in the distribution system reflecting maximum residence time of water in the system.</p> <p>Verify that community water systems using only groundwater sources report the results of all TTHM analysis to the Division within 30 days of the receipt of the results.</p> <p>Verify that community water systems using surface water in whole or in part promptly collected at least one check sample when the results from any analysis exceeded 0.10 mg/L for TTHMs.</p> <p>Verify that community water systems using surface water in whole or in part and meeting any of the following criteria immediately resume nonreduced monitoring that continues for at least 1 yr:</p> <ul style="list-style-type: none"> <li>- any analysis exceeding 0.10 mg/L for TTHM: results are confirmed by one check sample</li> <li>- any significant change to the water system's source of water or treatment program.</li> </ul> <p>Verify that community water systems using only groundwater sources with an analysis confirmed by check samples that equals or exceeds 0.10 mg/L of TTHM potential, immediately resumed nonreduced monitoring for at least 1 yr.</p> <p>Verify that community water systems using only groundwater sources and undergoing any significant change to the system's raw water or treatment program, immediately analyze an additional sample for maximum TTHM potential taken at a point in the distribution system reflecting maximum residence time of the water in the system.</p> <p>(NOTE: The monitoring frequencies may be increased by the Division.)</p>
<p><b>VOLATILE ORGANIC CHEMICALS (VOCs)</b></p> <p><b>3-28.</b> Samples of water delivered to users must be analyzed for VOCs (OAR, Sections 333-61-030(2)(c), 333-61-036(3)(e)(A)(i), (3)(e)(C), (3)(e)(F), (3)(e)(G), and (3)(e)(J)).</p>	<p>Verify that community and nontransient noncommunity water systems do not exceed the MCL for VOCs listed in Appendix 3-5.</p> <p>Verify that community and nontransient, noncommunity water systems meet the following standards for monitoring VOCs:</p> <ul style="list-style-type: none"> <li>- samples are taken at each point in the distribution system representative of each source after treatment or at entry points to the distribution system after any application of treatment</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-28. (continued)</b>	<ul style="list-style-type: none"> <li>- samples are collected quarterly at each sampling point beginning in the compliance period starting 1 January 1993</li> <li>- each sample is collected from the same sampling point unless conditions make another sampling point more representative.</li> </ul> <p>(NOTE: The Division may allow composting of samples from a maximum of five sampling points provided the samples are composted in the laboratory and analyzed within 14 days of collection.)</p> <p>(NOTE: For water systems that serve a population of less than 3300, no additional samples are required before 1 October 1993 if the first quarterly sample has no detections.)</p> <p>Verify that systems with an initial monitoring for VOCs that was completed by 31 December 1992 with no contaminants detected, monitor for VOCs annually beginning 1 January 1993.</p> <p>Verify that water systems detecting any VOC except vinyl chloride in any sample greater than the minimum detection limit of 0.0005 mg/L resume quarterly monitoring at each sampling point where a detection occurred.</p> <p>(NOTE: The Division may allow groundwater systems with a history of no detections to collect one sample every 3 yr and surface water systems to monitor at the discretion of the Division.)</p> <p>(NOTE: Systems with three consecutive annual samples with no detection of a contaminant may apply to the Division for a waiver.)</p>
<b>3-29.</b> Water systems must determine compliance with MCLs for VOCs (OAR, Section 333-61-036(3)(e)(H), (3)(e)(I), and (3)(e)(K)).	<p>Verify that water systems determine VOC compliance as follows:</p> <ul style="list-style-type: none"> <li>- systems collecting more than one sample a year are out of compliance when the annual average of any sampling point exceeds the MCL for any contaminant</li> <li>- systems collecting one sample or less a year are out of compliance if the level of a contaminant at any sampling point exceeds the MCL.</li> </ul> <p>Verify that water systems with any VOC contaminant exceeding a MCL, resume quarterly monitoring.</p> <p>Verify that if the Division requires confirmation samples for positive or negative results, the confirmation sample is averaged with the original sample result and the average is used to determine compliance.</p>
<b>3-30.</b> Groundwater systems that detect 2-carbon organic compounds must meet additional monitoring standards for vinyl chloride (OAR, Section 333-61-036(3)(e)(G)(iii)).	<p>Verify that groundwater systems which have detected one or more of the following 2-carbon organic compounds monitor quarterly for vinyl chloride:</p> <ul style="list-style-type: none"> <li>- trichloroethylene</li> <li>- tetrachloroethylene</li> <li>- 1,2-dichloroethane</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-30. (continued)</b>	<ul style="list-style-type: none"> <li>- 1,1,1-trichloroethane</li> <li>- cis-1,2-dichloroethylene</li> <li>- trans-1,2-dichloroethylene</li> <li>- 1,1-dichloroethylene.</li> </ul> <p>Verify that vinyl chloride samples are taken at each sampling point where one or more of the 2-carbon organic compounds were detected.</p> <p>(NOTE: The division may reduce the quarterly monitoring for vinyl chloride to one sample during each compliance period. Surface water systems monitor for vinyl chloride at the discretion of the Division.)</p>
<b>TURBIDITY</b>  <b>3-31.</b> Installations with a public water system using surface water sources or groundwater sources under the direct influence of surface water must not exceed maximum allowable levels for turbidity (OAR, Section 333-61-030(3)).	<p>Determine if the installation has a public water system using surface water sources or groundwater sources under the direct influence of surface water.</p> <p>Verify that public water systems that do not provide filtration treatment do not exceed a turbidity level of 5 NTU in representative samples of the sourcewater immediately prior to the first or only point of disinfection application unless otherwise determined by the Division</p> <p>Verify that public water systems providing filtration treatment do not exceed the following maximum allowable levels for turbidity:</p> <ul style="list-style-type: none"> <li>- for conventional filtration treatment or direct filtration treatment, less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month</li> <li>- for slow sand filtration, diatomaceous earth filtration, and other filtration technologies, less than 1 NTU in at least 95 percent of the measurements taken each month</li> <li>- all filtration systems must not exceed 5 NTU at any time.</li> </ul> <p>(NOTE: The Division may for water systems using conventional or direct filtration treatment substitute higher turbidity limits, but in no case allow more than 1 NTU in more than 5 percent of the samples taken each month.)</p> <p>Verify that turbidity is measured at representative entry points to the distribution system.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>MICROBIOLOGICAL CONTAMINANTS</b>  <b>3-32.</b> Public water systems must meet microbiological sampling standards (OAR, Section 333-61-036(5)(b)(A) through (5)(b)(F)).	<p>Verify that the following water systems meet the sampling frequencies found in Appendix 3-6:</p> <ul style="list-style-type: none"> <li>- community water systems</li> <li>- noncommunity water systems using surface water sources</li> <li>- noncommunity water systems using groundwater sources serving more than 1000 persons per day.</li> </ul> <p>Verify that noncommunity water systems meet the monitoring frequencies found in Appendix 3-6 within 6 mo of a Division determination that the system uses groundwater under the direct influence of surface water.</p> <p>Verify that the following water systems analyze for coliform bacteria each calendar quarter that water is provided to the public:</p> <ul style="list-style-type: none"> <li>- noncommunity water systems using groundwater sources and serving 1000 persons or fewer per day</li> <li>- all systems serving four to 14 service connections or 10 to 24 users.</li> </ul> <p>Verify that samples are collected from points representative of conditions, including impacts of multiple sources, within the distribution system at regular time intervals throughout the reporting period.</p> <p>Verify that the standard sample volume required for total coliform analysis regardless of the analytical method used is 100 mL.</p> <p>Verify that public water systems collect total coliform samples at sites representative of water throughout the distribution system according to an approved written sampling site plan.</p>
<b>3-33.</b> Public water system must not exceed maximum allowable levels for microbiological contaminants (OAR, Section 333-61-030(4)).	<p>Verify that public water systems do not exceed the following maximum allowable levels for microbiological contaminants:</p> <ul style="list-style-type: none"> <li>- for systems collecting 40 or more samples a month, the total coliform positive samples do not exceed 5.0 percent of the samples collected per month</li> <li>- for systems collecting fewer than 40 samples a month, the total coliform positive samples do not exceed more than one sample collected during a month</li> </ul> <p>Verify that public water systems with any of the following potential acute health risk situations notify the public:</p> <ul style="list-style-type: none"> <li>- a fecal coliform-positive or <i>E. coli</i>-positive repeat sample</li> <li>- a total coliform-positive repeat sample following a fecal coliform-positive or <i>E. coli</i>-positive routine sample.</li> </ul> <p>Verify that public water systems determine compliance with the MCL for total coliforms on a monthly basis.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>3-34.</b> Water systems with a routine total coliform-positive sample must meet repeat sampling standards (OAR, Section 333-61-036(5)(c), (5)(d), (5)(g), and (5)(i)).</p>	<p>Verify that water systems with a routine total coliform-positive sample collect a set of repeat samples within 24 h of being notified of the positive results by the certified laboratory.</p> <p>Verify that systems collecting more than one routine sample per month collect at least three repeat samples for each total coliform-positive routine sample found.</p> <p>Verify that systems collecting one routine sample per month or less collect at least four repeat sample for each total coliform-positive samples found.</p> <p>Verify that the system collects at least one repeat sample from the following locations:</p> <ul style="list-style-type: none"> <li>- the sampling tap where the original total coliform-positive sample was taken</li> <li>- a tap within five service connections upstream of the original sampling site</li> <li>- a tap within five service connections downstream of the original sampling site.</li> </ul> <p>Verify that all repeat samples are collected on the same day.</p> <p>Verify that all routine and repeat samples not invalidated by the Division are included in determining compliance with the MCL for total coliforms.</p> <p>Verify that systems which collect fewer than five routine samples per month and have one or more total coliform-positive samples collect at least five routine samples during the next month the system provides water to the public unless otherwise determined by the Division.</p>
<p><b>3-35.</b> Water systems with a repeat total-coliform positive sample must take specific action (OAR, Section 333-61-036(5)(h) and (5)(n)).</p>	<p>Verify that if one or more repeat samples is total-coliform positive, an additional set of repeat samples is collected within 24 h.</p> <p>Verify that repeat samples are collected until either total coliforms are not detected in one complete set of repeat samples or the Division determines that the MCL for total coliforms has been exceeded.</p> <p>Verify that systems with any routine or repeat sample that is total coliform-positive analyze the total coliform-positive culture medium to determine if fecal coliforms or <i>E. coli</i> are present.</p> <p>Verify that if fecal coliforms or <i>E. coli</i> are present, the system has notified the Division by the end of the day when the system is notified of the test result or if the Division office is closed, by the end of the next business day.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-36.</b> Water systems that collect fewer than five routine samples per month must meet specific sanitary survey standards (OAR, Section 333-61-036(5)(p)).</p>	<p>Verify that public water systems collecting fewer than five routine samples per month undergo an initial sanitary survey as follows:</p> <ul style="list-style-type: none"> <li>- by 29 June 1994 for community water systems</li> <li>- by 29 June 1999 for noncommunity water systems.</li> </ul> <p>Verify that water systems which undergo an initial sanitary survey undergo the following surveys:</p> <ul style="list-style-type: none"> <li>- noncommunity water systems designated by the Division as using only protected and disinfected groundwater undergo subsequent surveys every 10 yr</li> <li>- other water systems undergo subsequent surveys every 5 yr.</li> </ul>
<p><b>RADIOACTIVE CONTAMINANTS</b></p> <p><b>3-37.</b> Community water systems utilizing surface water sources and/or groundwater sources must meet monitoring standards for gross alpha particle activity (OAR, Sections 333-61-030(5) and 333-61-036(6)(a)(A) through (6)(a)(D)).</p>	<p>Verify that community water systems sample and analyze for gross alpha activity every 4 yr for each source.</p> <p>Verify that compliance for standards of gross alpha particle activity, radium-226, and radium-228 are based on an annual composite of 4 consecutive samples or the average of the analyses on 4 quarterly samples.</p> <p>(NOTE: A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis if the measured gross alpha particle activity does not exceed 5 pCi/L at a confidence level of 95 percent.)</p> <p>Verify that community water systems do not exceed the maximum allowable contamination levels for gross alpha particle activity listed in Appendix 3-7.</p> <p>Verify that for water systems with a gross alpha particle activity exceeding 5 pCi/L, the same or an equivalent sample is analyzed for radium-226.</p> <p>Verify that for water systems with radium-226 activity levels which exceeds 3 pCi/L, the same or equivalent sample is analyzed for radium-228.</p> <p>(NOTE: The Division may require community water systems with a radium-228 activity level exceeding 3 pCi/L to conduct annual monitoring.)</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-38.</b> Community water systems that exceed the MCL for gross alpha activity must meet monitoring and notification standards (OAR, Section 333-61-036(6)(a)(E)).</p> <p><b>3-39.</b> Community water systems must meet monitoring standards for manmade radioactivity (OAR, Sections 333-61-030(5), 333-61-036(6)(b)(A) and (6)(b)(B)).</p> <p><b>3-40.</b> Community water systems potentially under the influence of nuclear facilities must meet additional monitoring standards (OAR, Section 333-61-036(6)(b)(C)).</p>	<p>Verify that water systems which exceed the average annual MCL for gross alpha activity or total radium notify the Division within 48 h and notify the public.</p> <p>Verify that monitoring at quarterly intervals is continued until the annual average concentration no longer exceeds the MCL or until a monitoring schedule as a condition to a variance, exemption, or enforcement action becomes effective.</p> <p>Verify that community water systems using surface water sources and serving more than 100,000 persons, monitor for gross beta radioactivity, strontium-90, and tritium at 4-yr intervals.</p> <p>Verify that compliance with MCLs for manmade radioactivity is based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analyses on four quarterly samples.</p> <p>(NOTE: Compliance is assumed without further analysis if the average annual concentration of gross beta activity is less than 50 pCi/L and if the average annual concentration of tritium and strontium-90 do not exceed the MCL if both radionuclides are present and the sum of their annual dose equivalents to bone marrow do not exceed 4 mrem/yr.)</p> <p>Verify that community water systems do not exceed the maximum allowable contamination levels for manmade radioactivity listed in Appendix 3-7.</p> <p>Verify that if the gross beta activity exceeds 50 pCi/L, an analysis is performed to determine the major manmade radioactivity constituents present and that the appropriate organ and total body doses are calculated to determine compliance.</p> <p>(NOTE: The Division may require water suppliers to conduct additional sampling to determine the level of manmade radioactivity in principal watersheds.)</p> <p>Determine if the community water system is potentially under the influence of nuclear facilities.</p> <p>Verify that the community water system initiates the following monitoring:</p> <ul style="list-style-type: none"> <li>- quarterly monitoring for gross beta levels and iodine-131 radioactivity</li> <li>- annual monitoring for strontium-90 and tritium.</li> </ul> <p>Verify that quarterly monitoring for gross beta activity is based on the analysis of monthly samples or on the analysis of a composite of three monthly samples.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-40. (continued)</b></p>	<p>Verify that community water systems with a gross beta particle activity exceeding 15 pCi/L, the same or an equivalent sample is analyzed for strontium-89 and cesium-134.</p> <p>Verify that for community water systems with a gross beta activity exceeding 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present and the appropriate organ and total body are calculated to determine compliance.</p> <p>Verify that quarterly monitoring for iodine-131 is based on the analysis of a composite of five consecutive daily samples once each quarter unless more frequent monitoring is required by the Division.</p> <p>Verify that annual monitoring of strontium-90 and tritium are based on the analysis of a composite of four consecutive quarterly samples or the analysis of four quarterly samples.</p> <p>(NOTE: The Division may allow the substitution of environmental surveillance data taken from the operation of the nuclear facility for direct monitoring of manmade radioactivity.)</p>
<p><b>3-41.</b> Community water systems that exceed the MCL for manmade radioactivity must meet monitoring and notification standards (OAR, Section 333-61-036(6)(b)(D)).</p> <p><b>SECONDARY CONTAMINANTS</b></p> <p><b>3-42.</b> Public water systems must not exceed maximum contamination levels for secondary contaminants (OAR, Sections 333-61-030(6), 333-61-042(6), 333-61-036(7), and 333-61-040((1)(g)).</p>	<p>Verify that water systems which exceed the average annual MCL for manmade radioactivity notify the Division within 48 h and notify the public.</p> <p>Verify that monitoring at monthly intervals is continued until the annual average concentration no longer exceeds the MCL or until a monitoring schedule as a condition to a variance, exemption, or enforcement action becomes effective.</p> <p>Verify that public water systems do not exceed the maximum contamination level for secondary contaminants listed in Appendix 3-8.</p> <p>(NOTE: The levels of Appendix 3-8 represent reasonable goals for drinking water but routine sampling for these secondary contaminants are not required.)</p> <p>Verify that community water systems with fluoride levels which exceed the secondary contaminant level of 2.0 mg/L, but are not greater than 4.0 mg/L, provide notice to all billing units annually, all new billing units at the time service begins, and the Division.</p> <p>Verify that water systems exceeding a fluoride MCL of 4.0 mg/L notify the Division within 48 h.</p>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>ACRYLAMIDE AND EPICHLOROHYDRIN</b></p> <p><b>3-43.</b> Public water systems must not exceed MCLs for acrylamide and epichlorohydrin (OAR, Section 333-61-030(7)).</p> <p><b>DISINFECTANT RESIDUALS</b></p> <p><b>3-44.</b> Public water systems with continuous disinfection must meet monitoring standards (OAR, Section 333-61-036(8)).</p> <p><b>SUPPLEMENTAL FLUORIDATION</b></p> <p><b>3-45.</b> Public water systems that add fluoride compounds for the prevention of dental cavities must meet specific standards (OAR, Section 333-61-085).</p>	<p>Verify that public water systems certify annually to the state in writing that acrylamide and epichlorohydrin are not used in the drinking water in combination, product, or of a dose and monomer level that exceeds the following concentrations:</p> <ul style="list-style-type: none"> <li>- acrylamide, 0.05 percent dosed at 1 ppm or equivalent</li> <li>- epichlorohydrin, 0.01 percent dosed at 20 ppm or equivalent.</li> </ul> <p>Determine if the installation has a public water system that practices continuous disinfection.</p> <p>Verify that the public water system maintains a detectable residual disinfectant throughout the system.</p> <p>Verify that the residual is measured and recorded daily at one or more representative points.</p> <p>Verify that the public water system maintains a summary report of the daily residual disinfectant measurements.</p> <p>Verify that the residual disinfectant summary report is kept at a convenient location within or near the area served by the water system.</p> <p>Verify that public water systems receive approval from the Division before adding fluoride compounds to the water for the prevention of dental cavities.</p> <p>Verify that the operation of fluoridation equipment meets the following standards:</p> <ul style="list-style-type: none"> <li>- the fluoride of the finished water does not exceed 2.0 mg/L</li> <li>- the equipment is maintained in good working order</li> <li>- the fluoride content of the unfluoridated water and the fluoridated water daily as required by the Director</li> <li>- daily record the amount of fluoride added to the water, the quantity of water treated, and the fluoride levels of the treated water.</li> </ul> <p>Verify that daily fluoride records are submitted to the Division monthly.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>SURFACE WATER TREATMENT STANDARDS</b></p> <p><b>3-46.</b> Installations with public water systems that use surface waters must meet specific standards for <i>Giardia Lamblia</i> cysts and viruses removal and/or inactivation (OAR, Section 333-61-032(1)).</p>	<p>(NOTE: Systems using surface water sources are defined as either water systems that use surface waters solely or water systems that use ground-water sources which are under the direct influence of surface water.)</p> <p>Verify that at least 99.9 (3-log) removal and/or inactivation of <i>Giardia Lamblia</i> cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.</p> <p>Verify that at least 99.99 (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.</p> <p>(NOTE: Public water systems are considered to be in compliance if the system is exempted from requiring filtration and disinfection or proper filtration and disinfection is supplied.)</p>
<p><b>SURFACE WATER SYSTEMS WITHOUT FILTRATION</b></p> <p><b>3-47.</b> Public water systems supplied by a surface water source that are not required to provide filtration must meet sourcewater treatment standards (OAR, Sections 333-61-032(2)(a) and 333-61-036(4)(a)).</p> <p><b>3-48.</b> Public water systems not required to provide filtration and supplied by surface water sources must meet coliform monitoring standards (OAR, Sections 333-61-032(2)(b)(A), (2)(b)(E), 333-61-036(4)(a)(A), and (5)(b)(G)).</p>	<p>Determine if the installation has a public water system without filtration that meets one of the following criteria:</p> <ul style="list-style-type: none"> <li>- supplied by a surface water source or groundwater under the direct influence of surface water</li> <li>- identified by the Division as a groundwater system under the direct influence of surface water.</li> </ul> <p>Verify that public water systems meet surface water treatment standards within 6 mo of being identified by the Division as a groundwater system under the direct influence of surface water.</p> <p>Verify that fecal coliform or total coliform density measurements are performed on representative sourcewater samples collected immediately before the first or only point of disinfection.</p> <p>Verify that the system samples for fecal or total coliform at the minimum frequency shown in Appendix 3-9.</p> <p>Verify that 90 percent of the coliform samples collected for the previous 6 mo the system served water to the public meet one of the following conditions:</p> <ul style="list-style-type: none"> <li>- fecal coliform concentration is equal to or less than 20 per 100 mL</li> <li>- the total coliform concentration is equal to or less than 100 per 100 mL.</li> </ul>

<p align="center"><b>COMPLIANCE CATEGORY:</b>  <b>SAFE DRINKING WATER ACT (SDWA)</b>  <b>Oregon Supplement</b></p>	
<p><b>REGULATORY REQUIREMENTS:</b></p>	<p><b>REVIEWER CHECKS:</b></p>
<p><b>3-48. (continued)</b></p>	<p>(NOTE: Public water systems that measure both fecal and total coliform must meet only the fecal coliform criterion.)</p> <p>Verify that the water system complies with the MCL for total coliform bacteria at least 11 mo of the 12 previous mo the system served water to the public unless otherwise determined by the Division.</p> <p>Verify that water systems with sourcewater exceeding a turbidity of 1 NTU do the following unless otherwise determined by the Division:</p> <ul style="list-style-type: none"> <li>- collect at least one fecal or total coliform sample each day the source water exceeds 1 NTU</li> <li>- sample is collected within 24 h at the first customer.</li> </ul>
<p><b>3-49.</b> Public water systems not required to provide filtration and supplied by surface water sources must meet turbidity monitoring standards (OAR, Sections 333-61-032(2)(b)(B) and 333-61-036(4)(a)(B)).</p>	<p>Verify that the turbidity level of the system does not exceed 5 NTU.</p> <p>Verify that samples are representative samples of the sourcewater immediately prior to the first or only point of disinfection unless otherwise determined by the Division.</p> <p>Verify that turbidity grab samples are collected every 4 h (or more frequently) that the system serves water to the public.</p> <p>(NOTE: Continuous turbidity monitoring may be substituted for grab sample monitoring if the accuracy of the measurement is validated by a protocol approved by the Division.)</p> <p>Verify that systems using continuous turbidity monitoring report the turbidity data to the Division in the same manner that grab sample results are reported.</p>
<p><b>3-50.</b> Public water systems not required to provide filtration and supplied by surface water sources must meet watershed and safety standards (OAR, Section 333-61-032(2)(c)(B), (2)(c)(D), and (2)(c)(F)).</p>	<p>Verify that the water system maintains a comprehensive watershed control program which demonstrates it can control all human activities that may have an adverse impact on the microbiological quality of the source water including:</p> <ul style="list-style-type: none"> <li>- the watershed hydrology and land ownership</li> <li>- watershed characteristics and activities that have or may have an adverse effect on sourcewater quality</li> <li>- monitoring of activities that may have an adverse effect on sourcewater quality.</li> </ul> <p>Verify that the water system submits an annual report to the Division which includes the following:</p> <ul style="list-style-type: none"> <li>- any special concerns about the watershed</li> <li>- the procedures used to resolve the concern</li> <li>- current activities affecting water quality</li> <li>- projections of future adverse impacts or activities.</li> </ul>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<b>3-50. (continued)</b>	<p>Verify that if the system is identified by the Division as a source of waterborne disease outbreak, the system is sufficiently modified as determined by the Division.</p> <p>Verify that the water system complies with the MCL for TTHM.</p>
<b>3-51.</b> Public water systems not required to provide filtration and supplied by a surface water source must meet source-water disinfection standards (OAR, Sections 333-61-032(3), 333-61-036(4)(a)(C), (4)(a)(E), and (4)(a)(F)).	<p>Verify that the system achieves at least 99.9 percent (3-log) inactivation of <i>Giardia Lamblia</i> cysts and 99.99 percent (4-log) inactivation of viruses as follows:</p> <ul style="list-style-type: none"> <li>- every day the system serves water to the public except any one day each month</li> <li>- 11 of the 12 previous months the system served water to the public unless otherwise determined by the Division.</li> </ul> <p>Verify that the water system calculates the CT values each day the system serves water to the public.</p> <p>Verify that the CT levels listed in Appendix 3-10 are met.</p> <p>Verify that the residual disinfectant concentration of the water entering the distribution system is monitored continuously and the lowest value is recorded each day.</p> <p>Verify that if there is a failure in the continuous monitoring equipment, grab sampling every 4 h is conducted in lieu of continuous monitoring, but for no more than 5 working days.</p> <p>Verify that the residual disinfectant concentration is measured at the same points in the distribution system and at the same time as total coliforms are sampled unless otherwise allowed by the Division.</p> <p>Verify that the water system's disinfection system has one of the following:</p> <ul style="list-style-type: none"> <li>- redundant components, including an auxiliary power supply with automatic startup and alarm to ensure that disinfectant application is maintained continuously while water is being delivered to the distribution system</li> <li>- automatic shutoff of delivery of water to the distribution system whenever there is less than 0.2 mg/L of residual disinfectant concentration in the water.</li> </ul> <p>Verify that the residual disinfectant concentration in the water entering the distribution system is not less than 0.2 mg/L for more than 4 h.</p> <p>Verify that the disinfectant residual concentration in the distribution system, measured as total chlorine, combined chlorine, or chlorine dioxide is not undetectable in more than 5 percent of the samples each month, for 2 consecutive months that the system serves the public.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-52.</b> Small water systems that take grab samples in lieu of providing continuous monitoring of residual disinfectant concentrations must meet specific standards (OAR, Section 333-61-036(4)(a)(E)).</p>	<p>Determine if the water system uses grab samples in lieu of providing continuous monitoring for residual disinfectant concentrations.</p> <p>Verify that systems serving 3300 or fewer persons which take grab samples in lieu of providing continuous monitoring on an ongoing basis meet the following sampling frequencies:</p> <ul style="list-style-type: none"> <li>- 500 or fewer persons served, 1 sample per day</li> <li>- 501 to 1000 persons served, 2 samples per day</li> <li>- 1001 to 2500 persons served, 3 samples per day</li> <li>- 2501 to 3300 persons served, 4 samples per day.</li> </ul> <p>Verify that the day's samples are not taken at the same time.</p> <p>Verify that water systems with a residual disinfectant concentration that falls below 0.2 mg/L take grab samples every 4 h until the residual disinfectant concentration is equal to or greater than 0.2 mg/L.</p>
<p><b>3-53.</b> Public water systems that do not meet the requirements for avoiding filtration treatment must take specific action (OAR, Section 333-61-032(4)(a)).</p>	<p>Verify that water systems which violate any of the requirements for avoiding filtration treatment must meet one of the following requirements:</p> <ul style="list-style-type: none"> <li>- meet filtration and disinfection requirements by 29 June 1993</li> <li>- meet requirements for avoiding filtration treatment within 18 mo of the failure.</li> </ul>
<p><b>SURFACE WATER SYSTEMS WITH FILTRATION</b></p>	
<p><b>3-54.</b> Public water systems with filtration treatment and supplied by surface water sources must meet treatment standards (OAR, Section 333-61-032(4)).</p>	<p>Determine if the installation has a public water system that uses filtration and is supplied by a surface water source or a groundwater source under the direct influence of surface water.</p> <p>Verify that the system uses one of the following filtration treatments:</p> <ul style="list-style-type: none"> <li>- conventional filtration or direct filtration</li> <li>- slow sand filtration</li> <li>- diatomaceous earth filtration</li> <li>- other approved filtration techniques.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-55.</b> Public water systems with filtration treatment using surface water sources or groundwater sources under the direct influence of surface water must meet specific monitoring standards (OAR, Sections 333-61-030(3)(d) and 333-61-036(4)(b)).</p>	<p>(NOTE: These requirements become effective 29 June 1993 or within 18 mo of a system's failure to meet the requirements for surface water systems that do not need filtration treatment.)</p> <p>Verify that surface water systems which provide filtration treatment do not exceed the following maximum allowable levels for turbidity:</p> <ul style="list-style-type: none"> <li>- conventional filtration treatment or direct filtration treatment <ul style="list-style-type: none"> <li>- less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month</li> </ul> </li> <li>- slow sand filtration, diatomaceous earth filtration, and other filtration technologies <ul style="list-style-type: none"> <li>- less than 1 NTU in at least 95 percent of the measurements taken each month</li> </ul> </li> <li>- all filtration systems must not exceed 5 NTU at any time.</li> </ul> <p>(NOTE: The Division may for water systems using conventional or direct filtration treatment substitute higher turbidity limits but in no case allow more than 1 NTU in more than 5 percent of the samples taken each month.)</p> <p>Verify that turbidity is measured at representative entry points to the distribution system.</p> <p>Verify that turbidity measurements are performed on representative samples of the system's filtered water every 4 h (or more frequently) that the system serves water to the public.</p> <p>(NOTE: Systems may substitute continuous turbidity monitoring for grab sample monitoring if it validates the measurement accuracy on a regular basis using a protocol approved by the Division.)</p> <p>(NOTE: The Division may reduce the sampling frequency to once per day for systems using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration.)</p> <p>Verify that the residual disinfectant concentration of the water entering the distribution system is monitored continuously and the lowest values are recorded each day.</p> <p>Verify that if there is a failure in the continuous monitoring equipment, grab sampling every 4 h is conducted in lieu of continuous monitoring, but for no more than 5 working days.</p> <p>Verify that the residual disinfectant concentration is measured at the same points in the distribution system and at the same time as total coliforms are sampled, unless otherwise allowed by the Division.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>3-56.</b> Surface water systems with filtration treatment that exceed turbidity levels must take specific action (OAR, Section 333-61-036(4)(d) and (4)(e)).</p> <p><b>CORROSION CONTROL</b></p> <p><b>3-57.</b> Installations with large community and nontransient, noncommunity water systems must meet corrosion control standards (OAR, Section 333-61-034(2)(a)).</p> <p><b>3-58.</b> Installations with a medium or small community and nontransient, noncommunity water systems must meet corrosion control standards (OAR, Section 333-61-034(2)(b) and (2)(c)).</p>	<p>Verify that surface water systems exceeding the MCLs for turbidity confirm the results by resampling and remeasurement within 1 h.</p> <p>Verify that if the repeat measurement confirms the exceedance, the water supplier submits a report to the Division within 48 h.</p> <p>Verify that systems which serve more than 50,000 persons meet the following corrosion control standards unless the system is deemed to have optimized corrosion control:</p> <ul style="list-style-type: none"> <li>- systems have conducted an initial tap and water quality parameter monitoring for two consecutive 6-mo periods beginning 1 January 1992</li> <li>- the system completes corrosion control studies by 1 July 1994.</li> </ul> <p>Determine if the installation has a medium water system that serves 3301 to 50,000 persons or a small water system that serves less than 3301 persons.</p> <p>Verify that medium water systems conduct initial tap sampling beginning 1 July 1992 until the system either exceeds the lead or copper action level or becomes eligible for reduced monitoring.</p> <p>Verify that small water systems conduct initial tap sampling beginning 1 July 1993 until the system either exceeds the lead or copper action level or become eligible for reduced monitoring.</p> <p>Verify that systems which exceed the lead or copper action levels have recommended optimal corrosion control treatment within 6 mo.</p> <p>(NOTE: Within 12 mo after a system exceeds a lead or copper action level, the Divisions may require the system to perform corrosion control studies or the Division may specify an optimal corrosion control treatment. The Division will specify the required treatment within 18 mo for medium systems and within 24 mo for small systems.)</p> <p>Verify that systems required to perform corrosion control studies have completed the studies within 18 mo of being required to do so.</p> <p>Verify that the system installs corrosion control treatment within 24 mo after the Division has designated such treatment.</p> <p>Verify that the system completes followup sampling within 36 mo after the Division designates optimal corrosion control treatment.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-58. (continued)</b>	<p>Verify that the system operates in compliance with Division-designated optimal water quality control parameters and continues to conduct tap sampling.</p> <p>(NOTE: Small or medium water systems that meet the lead and copper action levels during two consecutive 6-mo monitoring periods or which demonstrate to the satisfaction of the Division to have optimized corrosion control, are not required to complete the corrosion control treatment steps.)</p>
<b>LABORATORY STANDARDS</b>	
<b>3-59.</b> Installations with water systems must use approved laboratories for analyses (OAR, Section 333-61-036(1)(c)(A)).	<p>Verify that water systems use approved laboratories for the purpose of determining compliance with MCLs with the exception that turbidity, disinfectant residuals, temperature, and pH may be performed onsite using approved methods by trained individuals.</p>
<b>REPORTING AND RECORDKEEPING</b>	
<b>3-60.</b> Installations with water systems must meet general reporting standards (OAR, Section 333-61-040(1)(a) through (1)(c), (1)(g), and (1)(h)).	<p>Verify that installations which reasonably believe that specific actions have led to contamination of a public water system report that fact immediately to the water supplier and the Division.</p> <p>Verify that results of monitoring analysis performed by an approved laboratory are reported to the Division by the water supplier, unless direct laboratory reporting is authorized by the water supplier.</p> <p>Verify that water systems with an analysis indicating any positive coliform bacteria or any other analytical result that exceeds a MCL is reported to the Division within 24 h or by the next business day after the results are reported to the water supplier.</p> <p>Verify that water systems report the results of analyses not required to be reported within 24 h, within 10 days after the end of the month or within 10 days after the end of the required monitoring period.</p> <p>Verify that water systems notify the Division within 24 h of receiving any reports that substances or pathogenic organisms found in the water caused or are likely to cause physical suffering or illness.</p> <p>Verify that water systems notify the Division within 48 h of receiving a report which indicates that fluoride levels exceed 4.0 mg/L.</p> <p>Verify that community water systems with fluoride levels which exceed the secondary contaminant level of 2.0 mg/L but are not greater than 4.0 mg/L notify the Division.</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-60. (continued)</b></p> <p><b>3-61.</b> Water suppliers that use surface water source or a groundwater source under the direct influence of surface water and which provides filtration treatment must meet reporting standards (OAR, Section 333-61-040(1)(d)).</p> <p><b>3-62.</b> Water suppliers that use surface water source or a groundwater source under the direct influence of surface water that do not provide filtration treatment must meet reporting standards (OAR, Section 333-61-040(1)(e)).</p>	<p>Verify that within 10 days of completing any public notification action, a representative copy of each type of notice distributed to water users or made available to the public is submitted to the Division.</p> <p>Determine if the installation is a water supplier that uses a surface water source or a groundwater source under the direct influence of surface water and provides filtration treatment.</p> <p>Verify that the supplier report the following within 24 h or by the next business day:</p> <ul style="list-style-type: none"> <li>- turbidity levels that exceed 5 NTU</li> <li>- the discovery of a waterborne disease outbreak</li> <li>- disinfectant residual concentrations of less than 0.2 mg/L in water entering the distribution system and whether the residual was restored to at least 0.2 mg/L within 4 h.</li> </ul> <p>Verify that the supplier submits monthly reports beginning 29 June 1993 or when filtration is installed (whichever is later) containing the results of any test, measurement, or analysis not subject to 24-h reporting, performed onsite, by trained personnel.</p> <p>Verify that monthly reports are submitted within 10 days after the end of the month.</p> <p>Determine if the installation is a water supplier that uses a surface water source or a groundwater source under the direct influence of surface water, and does not provide filtration treatment.</p> <p>Verify that the water supplier meets the reporting standards for surface water systems that do provide filtration treatment.</p> <p>Verify that monthly reporting begins 1 January 1991 or within 6 mo of the Division determining surface influence for systems using groundwater under the direct influence of surface water.</p> <p>Verify that the water supplier submits a report to the Division within 10 days after the end of each month, with the results or analysis of the following:</p> <ul style="list-style-type: none"> <li>- fecal coliform and/or total coliform bacteria test results on raw (untreated) sourcewater</li> <li>- the daily disinfection CT values including the parameters used to compute the CT values</li> <li>- the daily determinations for the adequacy of disinfectant available for <i>Giardia Lamblia</i> or virus inactivation.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-62. (continued)</b>	<p>Verify that water suppliers with watershed control programs submit a report to the Division within 10 days after the end of each Federal fiscal year (FY) (30 September), with the results of the following:</p> <ul style="list-style-type: none"> <li>- the watershed control program</li> <li>- the watershed control program and disinfection treatment process onsite inspection summary.</li> </ul>
<b>3-63.</b> Community and nontransient noncommunity public water systems must meet lead and copper reporting standards (OAR, Section 333-61-040(1)(f)).	<p>Verify that community and nontransient noncommunity public water systems report to the Division the following information pertaining to lead and copper within the first 10 days following the end of each applicable monitoring period:</p> <ul style="list-style-type: none"> <li>- the results of all tap water monitoring for lead and copper</li> <li>- the 90th percentile lead and copper concentrations measured from among all lead and copper tap water samples collected during each monitoring period</li> <li>- the results of all water quality parameter monitoring.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-64.</b> Water suppliers of public water systems must meet record maintenance standards (OAR, Section 333-61-040(2)).</p>	<p>Verify that water suppliers of public water systems retain records relating to the quality of the water produced and the condition of the physical components of the system in a convenient location within or near the area served by the water system.</p> <p>Verify that the following records are maintained for the indicated minimum period of time:</p> <ul style="list-style-type: none"> <li>- bacteriological analyses for 5 yr</li> <li>- chemical analyses, secondary contaminants, turbidity, and radioactive substances for 10 yr</li> <li>- actions taken to correct items of noncompliance for 3 yr after the last action taken</li> <li>- reports, summaries, or communications on sanitary surveys for 10 yr</li> <li>- records concerning variances or permits for at least 5 yr after the expiration of the variance or permit</li> <li>- residual disinfectant measurements for 2 yr.</li> </ul> <p>Verify that public water systems which perform lead and copper tap water testing retain the original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, Division determinations, and any other information for at least 12 yr.</p> <p>Verify that the following data is maintained:</p> <ul style="list-style-type: none"> <li>- date, place, and time of sampling, and the name of the person who collected the sample</li> <li>- identification of the sample as to whether it was a routine finished water sample, check sample, raw water sample, or special purpose sample</li> <li>- date and time of the analysis, the laboratory, and person performing the analysis</li> <li>- analytical method used and the results of the analysis.</li> </ul> <p>(NOTE: Data may be transferred to tabular summaries.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>PUBLIC NOTIFICATION</b></p> <p><b>3-65.</b> Public water systems that fail to comply with an applicable MCL, treatment technique, or the requirements of any schedule must meet public notification standards (OAR, Section 333-61-042(1)).</p>	<p>Determine if the public water system failed to comply with an applicable MCL, treatment technique, or the requirements of any schedule.</p> <p>Verify that the public water system notifies the public by one of the following methods:</p> <ul style="list-style-type: none"> <li>- publication in a daily newspaper within 14 days after the noncompliance has been determined</li> <li>- by mail delivery not later than 45 days after the violation occurred.</li> </ul> <p>Verify that public notification by mail delivery continues once every 3 mo for as long as the violation or failure exists.</p> <p>Verify that public water systems with the following acute risk violations additionally furnish a copy of the notice to radio and television stations within 72 h after the violation:</p> <ul style="list-style-type: none"> <li>- violation of the MCL for nitrate</li> <li>- any violation of the MCL for total coliforms, when fecal coliforms are present in the water distribution</li> <li>- any occurrence of a waterborne disease outbreak in a public water system that does not provide filtration.</li> </ul> <p>Verify that water systems in areas not served by a daily newspaper of general circulation, publish a notice in a weekly newspaper of general circulation.</p> <p>Verify that community water systems in areas not served by a daily or weekly newspapers of general circulation give notice by hand delivery or by continuous posting in conspicuous places within the area served by the system within 72 h of the violation or failure and within 14 days of an acute violations.</p> <p>(NOTE: Noncommunity water systems that receive a positive confirmation on any check samples may in lieu of a newspaper published notice provide immediate notice by hand delivery or by continuous posting in conspicuous places within the area served by the system.)</p> <p>Verify that any notification by posting continues for as long as the violation or failure exists.</p> <p>Verify that any notification by hand delivery is repeated at least every 3 mo for as long as the violation or failure exists.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>3-66.</b> Public water systems that fail to perform monitoring and/or reporting, fail to comply with a testing procedure, or are granted a variance or exemption, must meet public notification standards (OAR, Section 333-61-042(2)).</p> <p><b>3-67.</b> Public water systems that are required to notify the public must meet notification standards (OAR, Section 333-61-042(3) through (8)).</p>	<p>Determine if the installation has a public water system that has failed to perform a monitoring and/or reporting action, failed to comply with a testing procedure, or has been granted an exemption or variance.</p> <p>Verify that the public water system notifies the public as follows:</p> <ul style="list-style-type: none"> <li>- publication in a daily newspaper within 3 mo</li> <li>- by mail delivery once every 3 mo or by hand delivery for as long as the violation exists or the variance or exemption remains in effect.</li> </ul> <p>Verify that water systems in areas not served by a daily newspaper of general circulation publish a notice within 3 mo in a weekly newspaper of general circulation.</p> <p>Verify that community water systems in areas not served by a daily or weekly newspaper of general circulation give notice by hand delivery or by continuous posting in conspicuous places within the area served by the system within 3 mo.</p> <p>(NOTE: Noncommunity water systems may in lieu of a newspaper published notice provide notice within 3 mo by hand delivery or by continuous posting in conspicuous places within the area served by the system.)</p> <p>Verify that any notification by posting continues for as long as the violation exists or the variance or exemption remains in effect.</p> <p>Verify that any notification by hand delivery is repeated at least every 3 mo for as long as the violation exists or a variance or exemption remains in effect.</p> <p>Verify that community water systems give a copy of the most recent public notice for any outstanding violation of any MCL, or any treatment technique requirement, or any variance or permit schedule to all new billing units or new hookups prior to or at the time service begins.</p> <p>Verify that public notices are clear and readily understandable explanations of the following:</p> <ul style="list-style-type: none"> <li>- the violation</li> <li>- any potential adverse health effects</li> <li>- the population at risk</li> <li>- the steps that the public water system is taking to correct the violation</li> <li>- the necessity for seeking alternative water supplies</li> <li>- any preventive measures the consumers should take until the violation has been corrected</li> <li>- a telephone number for additional information.</li> </ul> <p>Verify that each notice is conspicuous and does not contain unduly technical language, unduly small print, or similar problems that frustrate the purpose of the notice.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-67. (continued)</b>	<p>Verify that community water systems with fluoride levels exceeding the secondary contaminant level of 2.0 mg/L but not greater than 4.0 mg/L provide notice to all billing units annually, all new billing units at the time service begins, and the Division.</p> <p>Verify that community and nontransient noncommunity water systems notify persons served by the system of the availability of the results of sampling for regulated and unregulated VOCs by a notice in the first set of water bills issued by the system after the receipt of the results.</p> <p>(NOTE: Surface water systems are required to notify the public only after the first quarter's monitoring and must include a statement that additional monitoring will be conducted for three more quarters with the results available upon request.)</p> <p>Verify that public notices of violations of the MCL for total or fecal coliform or a violation of the treatment technique for microbiological contaminants contain the following information:</p> <ul style="list-style-type: none"> <li>- the dates the coliform-positive samples were collected</li> <li>- any corrective action the system is taking to return to compliance</li> <li>- the name and telephone number of the water system contact person</li> <li>- any other pertinent information.</li> </ul>
<b>PUBLIC NOTIFICATION FOR LEAD</b>	
<b>3-68.</b> Public water systems must meet public notification standards for lead contamination (OAR, Section 333-61-042(9)).	<p>Verify that public water systems identify and provide notice to persons who may be affected by lead contamination of their drinking water where contamination results from either or both of the following:</p> <ul style="list-style-type: none"> <li>- the lead content in the construction materials of the public water distribution system</li> <li>- corrosivity of the water supply sufficient to cause leaching of lead.</li> </ul> <p>(NOTE: Notice must be provided notwithstanding the absence of a violation of any national drinking water standard.)</p> <p>(NOTE: Notice is not required if the system demonstrates to the Division that the water system, including the residential and nonresidential portions connected to the water system, is lead free.)</p> <p>Verify that lead notice is provided to persons served by the system by 19 June 1988 by one of the following methods:</p> <ul style="list-style-type: none"> <li>- newspaper notices published in three consecutive months</li> <li>- once by mail with the water bill or in a separate mailing</li> <li>- once by hand delivery.</li> </ul>

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Oregon Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>3-69.</b> Public water systems that exceed the lead action levels based on tap water samples must meet readability standards for public notification (OAR, Section 333-61-034(5)(c)(A)).</p> <p><b>3-70.</b> Installations with community water systems that exceed the lead action levels based on tap water samples must meet public notification standards (OAR, Section 333-61-034(5)(c)(B), (5)(c)(C), and (5)(c)(E)).</p>	<p>Verify that in communities where a significant proportion of the population speaks a language other than English, the public education materials are communicated in the appropriate language(s).</p> <p>Determine if the installation has a community water system that fails to meet the lead action level on the basis of tap water samples.</p> <p>Verify that the system performs the following printed public notifications within 60 days:</p> <ul style="list-style-type: none"> <li>- insert notices in each customer's water utility bill</li> <li>- submit notice to the major daily and weekly newspapers circulated throughout the community</li> <li>- deliver pamphlets and/or brochures to facilities and community organizations.</li> </ul> <p>Verify that printed public notifications are repeated every 12 mo for as long as the system exceeds the lead action level.</p> <p>Verify that the system within 60 days submits additional service announcements to at least five of the radio and television stations with the largest audiences that broadcast to the community served.</p> <p>Verify that the broadcast public notification is repeated every 6 mo for as long as the system exceeds the lead action levels.</p> <p>(NOTE: Delivery of public education materials may be discontinued if the system has met the lead action level during the most recent 6-mo monitoring period.)</p>
<p><b>3-71.</b> Installations with nontransient noncommunity water systems that exceed the lead action levels based on tap water samples must meet public notification standards (OAR, Section 333-61-034(5)(c)(D) through (5)(c)(E)).</p>	<p>Determine if the installation has a nontransient noncommunity water system that fails to meet the lead action level on the basis of tap water samples.</p> <p>Verify that the system within 60 days notifies the public as follows:</p> <ul style="list-style-type: none"> <li>- posts informational posters in a public place or common area in each of the buildings served by the system</li> <li>- distributes informational pamphlets and/or brochures on lead in drinking water to each person served by the system.</li> </ul> <p>Verify that public notification actions are repeated at least once during each calendar year in which the system exceeds the lead action level.</p> <p>(NOTE: Delivery of public education materials may discontinue if the system has met the lead action level during the most recent 6-mo monitoring period.)</p>

**COMPLIANCE CATEGORY:**  
**SAFE DRINKING WATER ACT (SDWA)**  
**Oregon Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>OPERATION AND MAINTENANCE</b></p> <p><b>3-72.</b> Public water systems must meet operating and maintenance standards (OAR, Section 333-61-065).</p>	<p>Verify that public water systems are operated and maintained in a manner assuring continuous production and delivery of potable water by the following methods:</p> <ul style="list-style-type: none"> <li>- operating all phases and components of the system effectively in the manner for which they were designed</li> <li>- promptly repairing all leaks</li> <li>- promptly repairing or replacing all broken or malfunctioning equipment</li> <li>- making readily available and in good condition the proper equipment, tools, and parts to make repairs to the system</li> <li>- implementing actions to assure safe drinking water during emergencies.</li> </ul> <p>Verify that personnel in charge of operations of community water systems are certified by the Oregon Water System Operator's Certification Program.</p> <p>Verify that personnel in charge of noncommunity water systems using surface water sources or ground sources under the direct influence of surface water have attended the Division's Small Water System Training Course or an equivalent training.</p> <p>Verify that community water systems maintain the following records and documents at the facility:</p> <ul style="list-style-type: none"> <li>- complete and current as-built plans and specifications of the entire system</li> <li>- current operating manuals covering the general operation of each phase of the water system</li> <li>- a current master plan or a revision thereof</li> <li>- data showing production capacities of each water source and system component</li> <li>- current records of the number, type, and location of service connections</li> <li>- current records of raw water quality, both chemical and microbiological</li> <li>- current records of all chemicals and dosage rates used in the treatment of water</li> <li>- reports of maintenance work performed on water treatment and delivery systems</li> <li>- records relating to the sampling and analysis undertaken to assure compliance with the maximum contamination levels</li> <li>- records of residual disinfection measurements, where applicable</li> <li>- records of cross connection control and backflow prevention device testing where applicable</li> <li>- records of customers' complaints pertaining to water quality and followup action taken</li> <li>- fluoridation records, where applicable.</li> </ul>



<b>COMPLIANCE CATEGORY:</b> <b>SAFE DRINKING WATER ACT (SDWA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-72. (continued)</b>	<p>Verify that water systems using chlorine as a disinfectant other than for the treatment of surface water sources or groundwater sources under the direct influence of surface water, use a rate of application that is sufficient to result in a free chlorine residual of at least 0.2 mg/L after a 30-min contact time.</p> <p>Verify that water systems which add ammonia to the water along with chlorine to form chloramines as a disinfectant other than for the treatment of surface water sources or groundwater sources under the direct influence of surface water, use a rate of application is sufficient to result in a free chlorine residual of at least 2.0 mg/L after a 3-h contact time.</p> <p>Verify that water systems with an emergency affecting the quality of water produced by the system notify the Division immediately.</p>
<b>CROSS CONNECTIONS</b>	
<b>3-73.</b> Water suppliers of water systems must meet cross connection control standards (OAR, Section 333-61-070).	<p>Verify that water suppliers undertake programs for controlling and eliminating cross connections including:</p> <ul style="list-style-type: none"> <li>- evaluate the potential for cross connection in community water systems</li> <li>- discontinue service to premises with potential cross connection problems until an appropriate backflow prevention device assembly is installed or the hazard is eliminated</li> <li>- inspect to assure that cross connections do not exist in noncommunity water systems.</li> </ul> <p>Verify that community water systems with more than 300 service connections have at least one person certified in cross connection control inspection to implement the cross connection control program unless specifically exempted by the Division.</p> <p>Verify that backflow prevention device assemblies for protecting community water systems are installed at the service connection to premises where an approved airgap does not exist and the following requirements are met:</p> <ul style="list-style-type: none"> <li>- there is an auxiliary water supply which is or can be connected to the potable water piping</li> <li>- where there is piping for conveying liquids other than potable water and that piping is under pressure and is installed and operated in a manner that could cause a cross connection</li> <li>- there is intricate plumbing that makes it impractical to ascertain whether or not cross connections exist</li> <li>- there is backsiphonage potential</li> <li>- cross connections or potential cross connection exists.</li> </ul> <p>Verify that backflow prevention device assemblies for protecting noncommunity water systems are installed at or near the points of water use where potential cross connections are identified.</p>

**COMPLIANCE CATEGORY:**  
**SAFE DRINKING WATER ACT (SDWA)**  
**Oregon Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>3-73. (continued)</b>	<p>Verify that all backflow prevention device assemblies are of a type and model approved by the Division.</p> <p>Verify that installations with reduced pressure device assemblies, double check valve assemblies, or pressure vacuum breakers meet the following maintenance standards:</p> <ul style="list-style-type: none"> <li>- devices are tested at least once per year and immediately after installation and removal</li> <li>- test reports are prepared by a certified tester</li> <li>- copies of the reports are provided to the water supplier</li> <li>- water suppliers submit a quarterly summary of the tests to the Division</li> <li>- copies of reports on device assembly tests performed at noncommunity water systems are sent to the Division.</li> </ul>

### Appendix 3-1

#### Maximum Contaminant Levels for Inorganic Chemicals (OAR 333-61-030(1))

Contaminant	MCL (mg/L)	Action Level (mg/L)
Arsenic	0.05	
Asbestos	7 MFL*	
Barium	2	
Cadmium	0.005	
Chromium	0.1	
Copper		1.3
Fluoride	4.0	
Lead		0.015
Mercury	0.002	
Nitrate (as N)	10	
Nitrite (as N)	1	
Selenium	0.05	

\* MFL = million fibers per liter.



## Appendix 3-2

### Maximum Contaminant Levels for Organic Chemicals (OAR 333-61-030(2))

Contaminant	MCL (mg/L)
Alachlor	0.002
Atrazine	0.003
Carbofuran	0.04
Chlordane	0.002
Dibromochloropropane	0.0002
Endrin	0.0002
Ethylene dibromide	0.00005
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Polychlorinated biphenyls	0.0005
Pentachlorophenol	0.001
Toxaphene	0.003
2,4-D	0.07
2,4,5-TP Silvex	0.05



### Appendix 3-3

#### Minimum Detection Levels for Organic Compounds (OAR 333-61-036)

Contaminant	MCL (mg/L)
Alachlor	0.0002
Atrazine	0.0001
Carbofuran	0.0009
Chlordane	0.0002
Dibromochloropropane	0.00002
Ethylene dibromide	0.00001
Heptachlor	0.00004
Heptachlor epoxide	0.00002
Lindane	0.00002
Methoxychlor	0.0001
Polychlorinated biphenyls	0.0001
Pentachlorophenol	0.00004
Toxaphene	0.001
2,4-D	0.0001
2,4,5-TP Silvex	0.0002





## Appendix 3-4

### Unregulated Organic Chemicals

(OAR 333-61-036(3)(c)).

Aldicarb  
Aldicarb Sulfone  
Aldicarb Sulfoxide  
Aldrin  
Benzo(a)pyrene  
Butachlor  
Carabaryl  
Dalpon  
Di(2-ethylhexyl)adipate  
Di(2-ethylhexyl)phthalates  
Dicamba  
Dieldrin  
Dinoseb  
Diquat  
Endothall  
Glyphosphate  
Hexachlorobenzene  
Hexachlorocyclopentadiene  
3-Hydroxycarbofuran  
Methomyl  
Metolachlor  
Metribuzin  
Oxamyl (vydate)  
Picloram  
Propachlor  
Simazine  
2,3,7,8-TCDD (Dioxin)



### Appendix 3-5

#### Maximum Contaminant Levels for VOCs (OAR 333-61-030(2))

Contaminant	MCL (mg/L)
Benzene	0.005
Vinyl chloride	0.002
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
cis-1,2-Dichloroethylene	0.07
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
Ortho-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
trans-1,2-Dichloroethylene	0.1
Xylenes	10



### Appendix 3-6

#### Microbiological Sampling Frequency

(OAR 333-61-036(5)(b)(D), Table 18)

Population Served	Samples Per Month/Number of People
up to 1000	1 sample
1001 to 2500	2 samples
2501 to 83,000	1/800
83,001 to 111,000	1/900
111,001 to 160,000	1/1000
160,001 to 250,000	1/1200
250,001 to 410,000	1/1500
over 410,000	1/2000



### Appendix 3-7

#### Maximum Contaminant Levels for Radioactive Substances (OAR 333-61-030)

Contaminant	MCL (pCi/L)
Natural Origin	
Gross Alpha	15
(including Radium-226 but excluding Radon and Uranium)	
Combined Radium-226 and Radium-228	5
Man-made Origin	
Gross beta	50
Strontium-90	8
Iodine-131	3
Tritium	20,000





## Appendix 3-8

### Secondary Contaminant Levels (OAR 333-61-030)

Secondary Contaminant	Contaminant Level
Color	15 color units
Corrosivity	noncorrosive
Foaming agents	0.5 mg/L
pH	6.5-8.5
Hardness (as calcium carbonate)	250.0 mg/L
Odor	3 threshold odor unit
Total solids	500 mg/L
Aluminium	0.05-0.2 mg/L
Chloride	250 mg/L
Copper	1 mg/L
Fluoride	2.0 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Silver	0.1 mg/L
Sulfate	250 mg/L
Zinc	5 mg/L



### **Appendix 3-9**

#### **Minimum Frequency for Sampling Unfiltered Water** (OAR 333-61-036(4)(a)(A))

<b>Population served</b>	<b>Samples per week</b>
500 or less	1
501-3300	2
3301-10,000	3
10,001-25,000	4
More than 25,000	5



## Appendix 3-10

### CT Values for 99.9 Percent Inactivation of *Giardia lamblia* Cysts (OAC, Section 333-61-036(4)(a)(C))

#### Chart A

CT Values ( $CT_{99.9}$ ) for 99.9 % Inactivation of *Giardia lamblia* Cysts by Free Chlorine at 0.5 °C or Lower<sup>1</sup>

Free Residual (mg/L)	pH						
	< 6.0	6.5	7.0	7.5	8.0	8.5	< 9.0
≤ 0.4	137	163	195	237	277	329	390
0.6	141	168	200	239	286	342	407
0.8	145	172	205	248	295	354	422
1.0	148	176	210	253	304	365	437
1.2	152	180	215	259	313	378	451
1.4	155	184	221	268	321	387	464
1.6	157	189	226	273	329	397	477
1.8	162	193	231	279	338	407	489
2.0	165	197	236	286	346	417	500
2.2	169	201	242	297	353	426	511
2.4	172	205	247	298	361	435	522
2.6	175	209	252	304	368	444	533
2.8	178	213	257	310	375	452	543
3.0	181	217	261	316	382	460	552

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature, and at the higher pH.

# Appendix 3-10 (continued)

## Chart B

CT Values ( $CT_{99.9}$ ) for 99.9% Inactivation of *Giardia lamblia* Cysts by Free Chlorine at 5.0 °C<sup>1</sup>

Free Residual (mg/L)	pH						
	< 6.0	6.5	7.0	7.5	8.0	8.5	< 9.0
≤0.4	97	117	139	166	198	236	279
0.6	100	120	143	171	204	244	291
0.8	103	122	146	175	210	252	301
1.0	105	125	149	179	216	260	312
1.2	107	127	152	183	221	267	320
1.4	109	130	155	187	227	274	329
1.6	111	132	158	192	232	281	337
1.8	114	135	162	198	238	287	345
2.0	116	138	165	200	243	294	353
2.2	118	140	169	204	248	300	361
2.4	120	143	172	209	253	308	368
2.6	122	146	175	213	258	312	375
2.8	124	148	178	217	263	318	382
3.0	126	151	182	221	268	324	389

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature, and at the higher pH.

## Chart C

CT Values ( $CT_{99.9}$ ) for 99.9% Inactivation of *Giardia lamblia* Cysts by Free Chlorine at 10.0 °C<sup>1</sup>

Free Residual (mg/L)	pH						
	< 6.0	6.5	7.0	7.5	8.0	8.5	< 9.0
≤ 0.4	73	88	104	125	149	177	209
0.6	75	90	107	128	153	183	218
0.8	78	92	110	131	158	189	228
1.0	79	94	112	134	162	195	234
1.2	80	95	114	137	166	200	240
1.4	82	98	116	140	170	208	247
1.6	83	99	119	144	174	211	253
1.8	86	101	122	147	179	215	259
2.0	87	104	124	150	182	221	265
2.2	89	105	127	153	186	225	271
2.4	90	107	129	157	190	230	276
2.6	92	110	131	160	194	234	281
2.8	93	111	134	163	197	239	287
3.0	95	113	137	166	201	243	292

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature, and at the higher pH.

# Appendix 3-10 (continued)

## Chart D

CT Values ( $CT_{99.9}$ ) for 99.9% Inactivation of *Giardia lamblia* Cysts by Free Chlorine at 15.0 °C<sup>1</sup>

Free Residual (mg/L)	pH						
	< 6.0	6.5	7.0	7.5	8.0	8.5	< 9.0
≤0.4	49	59	70	83	99	118	140
0.6	50	60	72	86	102	122	146
0.8	52	61	73	88	105	126	151
1.0	53	63	75	90	108	130	158
1.2	54	64	76	92	111	134	160
1.4	55	65	78	94	114	137	165
1.6	56	66	79	96	116	141	169
1.8	57	68	81	98	119	144	173
2.0	58	69	83	100	122	147	177
2.2	59	70	85	102	124	150	181
2.4	60	72	86	105	127	153	184
2.6	61	73	88	107	129	158	188
2.8	62	74	89	109	132	159	191
3.0	83	76	91	111	134	162	195

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature, and at the higher pH.

## Chart E

CT Values ( $CT_{99.9}$ ) for 99.9% Inactivation of *Giardia lamblia* Cysts by Free Chlorine at 20 °C<sup>1</sup>

Free Residual (mg/L)	pH						
	< 6.0	6.5	7.0	7.5	8.0	8.5	< 9.0
≤0.4	36	44	52	62	74	89	105
0.6	38	45	54	64	77	92	109
0.8	38	46	55	66	79	95	113
1.0	39	47	56	67	81	98	117
1.2	40	48	57	69	83	100	120
1.4	41	49	58	70	85	103	123
1.6	42	50	59	72	87	105	128
1.8	43	51	61	74	89	108	129
2.0	44	52	62	75	91	110	130
2.2	44	53	63	77	93	113	132
2.4	45	54	65	78	95	115	138
2.6	46	55	66	80	97	117	141
2.8	47	56	67	81	99	119	143
3.0	47	57	68	83	101	122	146

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature, and at the higher pH.

# Appendix 3-10 (continued)

## Chart F

CT Values ( $CT_{99.9}$ ) for 99.9% Inactivation of *Giardia lamblia* Cysts by Free Chlorine at 25 °C<sup>1</sup> and Higher

Free Residual (mg/L)	pH						
	< 6.0	6.5	7.0	7.5	8.0	8.5	< 9.0
≤ 0.4	24	29	35	42	50	59	70
0.6	25	30	36	43	51	61	73
0.8	26	31	37	44	53	63	75
1.0	26	31	37	45	54	65	78
1.2	27	32	38	46	55	67	80
1.4	27	33	39	47	57	69	82
1.6	28	33	40	48	58	70	84
1.8	29	34	41	49	60	72	86
2.0	29	35	41	50	61	74	88
2.2	30	35	42	51	62	75	90
2.4	30	36	43	52	63	77	92
2.6	31	37	44	53	65	78	94
2.8	31	37	45	54	66	80	96
3.0	32	38	46	55	67	81	97

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature, and at the higher pH.

## Chart G

CT Values ( $CT_{99.9}$ )% Inactivation of *Giardia lamblia* cysts by Chlorine Dioxide and Ozone<sup>1</sup>

	Temperature					
	<1 °C	5 °C	10 °C	15 °C	20 °C	>25 °C
Chlorine dioxide	63	26	23	19	16	11
Ozone	2.9	1.9	1.4	0.95	0.72	0.48

<sup>1</sup> These CT values achieve greater than a 99.99% inactivation of viruses. CT values between the indicated temperatures may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature for determining  $CT_{99.9}$  values between indicated temperatures.

## Chart H

CT Values ( $CT_{99.9}$ ) for 99.9% Inactivation of *Giardia lamblia* Cysts by Chloramines<sup>1</sup>

	Temperature					
	<1 °C	5 °C	10 °C	15 °C	20 °C	>25 °C
	3800	2200	1850	1500	1100	750

<sup>1</sup> These values are for pH values of 6 to 9. These CT values may be assured to achieve greater than 99.99% inactivation of viruses only if chlorine is added and mixed in the water prior to the addition of ammonia. If this condition is not met, the system must demonstrate, based on demonstration studies or other information, as approved by the Division, that the system is achieving at least 99.99% inactivation of viruses. CT values between the indicated temperatures may be determined by linear interpolation. If no interpolation is used, use the  $CT_{99.9}$  value at the lower temperature for determining  $CT_{99.9}$  values between indicated temperatures.



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Safe Drinking Water Act (SDWA) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

**SECTION 4**

**RESOURCE CONSERVATION AND RECOVERY ACT,**

**SUBTITLE C (RCRA-C)**

**Oregon Supplement**

**SECTION 4**  
**RESOURCE CONSERVATION AND**  
**RECOVERY ACT, SUBTITLE C (RCRA-C)**  
**Oregon Supplement**

The Oregon Department of Environmental Quality has adopted by reference the Federal regulations of Title 40 260 through 266, 268, 270, and Subpart A of 124 and their amendments through 1 July 1992 (Oregon Administrative Rules (OAR) 340-100-002).

The following regulations are taken from OAR Division 340 and replace the named Federal regulations:

- 340-102-011 replaces 40 Code of Federal Regulations (CFR) 262.11
- 340-102-041 replaces 40 CFR 262.41
- 340-102-042 replaces 40 CFR 262.42(b)
- 340-102-044 replaces 40 CFR 262.44(b) with regards to recordkeeping and reporting
- 340-104-001(b) replaces 40 CFR 264.1(d)
- 340-104-001(4) replaces 40 CFR 264.1(f)
- 340-104-003 replaces 40 CFR 264.3
- 340-104-004 replaces 40 CFR 264.4
- 340-104-012 replaces 40 CFR 264.12(c)
- 340-104-056 replaces 40 CFR 264.56(d)(2)
- 340-104-074 replaces 40 CFR 264.74(a)
- 340-104-075 replaces 40 CFR 264.75 and 265.75
- 340-104-220 replaces 40 CFR 264.220
- 340-104-228 replaces 40 CFR 264.228(a)(1), (c), and (d)
- 340-104-258 the phrase "... but are not required to include the cost of expected closure under paragraph (a) of this section" at the end of 40 CFR 264.258(c)(2) is deleted
- 340-104-276 in 40 CFR 264.276 the term "animal feed crops" is substituted for the term "food chain crops"
- 340-104-276 replaces 40 CFR 264.276(b)(1)
- 340-104-340 replaces 40 CFR 284.343(d)
- 340-105-001 replaces 40 CFR 270.1(a)(b) and (c) prior to (c)(1)
- 340-105-003 replaces 40 CFR 270.3
- 340-105-005 replaces 40 CFR 270.5
- 340-104-010 replaces 40 CFR 270.10(e) to 270.10(i) regarding permit applications
- 340-105-012 replaces 40 CFR 270.12
- 340-105-030(1) the phrase "... the appropriate Act ..." in the second sentence of 40 CFR 270.30(a) is deleted and replaced with the phrase "... ORS Chapter 466 and OAR Chapter 340..."
- 340-105-030(2) replaces 40 CFR 270.30(1)(6)(i) preceeding 270.30(1)(6)(i)(A)
- 340-105-030(3) replaces 270.30(1)(9)
- 340-105-061 replaces 40 CFR 270.61(b)(4)
- 340-105-115 replaces 40 CFR 270.70 to 270.73, pertaining to interim status are not included in the state's hazardous waste management program

- 340-110-020(1) replaces 40 CFR 761.20 through 761.30
- 340-110-040 40 CFR 761.40 through 761.59 are applicable only as they relate to items removed from service for disposal
- 340-110-061(2) replaces 40 CFR 761.60(d)(1)
- 340-110-061(4) added to 40 CFR 761.60(e)
- 340-110-061(6) added to 40 CFR 761.60
- 340-110-065 replaces 40 CFR 761.65(c)(7)(ii)
- 340-110-075(2) added to 40 CFR 761.75(c)(1)
- 340-110-075(4) replaces 40 CFR 761.75(c)(7)
- 340-110-080 replaces 40 CFR 761.185 through 761.193
- 340-110-070(7) replaces 40 CFR 761.70(d)(8).

## Definitions

These definitions were obtained from the Oregon Department of Environmental Quality Administrative Rules, Hazardous and Solid Waste Management Division, and supplement the definitions provided in the Federal regulations (OAR 340-100-010).

- *Agency* - the Department.
- *Appropriate Regional Administrator* - the Department.
- *Aquatic LC<sub>50</sub>* - that concentration of a substance which is expected in a specific time to kill 50 percent of an indigenous aquatic test population. This concentration is expressed in milligrams of the substance per liter of water.
- *Asphalt Fraction* - black, tar-like material that is solid at room temperature and is a residual product from refining used oil.
- *Barrel* - 42 U.S. gallons of oil at 60 °F.
- *Cleanup* - includes, but is not limited to, the containment, collection, removal, treatment, or disposal of oil or hazardous material; site restoration; and any investigation, monitoring, surveys, testing, and other information gathering required or conducted by the Department.
- *Commission* - the Oregon Environmental Quality Commission.
- *Conditionally Exempt Generator* - a hazardous waste generator who generates in one calendar mo less than, or equal to, 2.2 lb of acute hazardous waste or who generates in one calendar mo less than, or equal to, 220 lb of hazardous waste, or does not accumulate at any time greater than 2200 lb of hazardous waste.
- *Contingency Plan* - a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment and is prepared according to Federal regulations.
- *Department* - the Oregon Department of Environmental Quality, unless the matter is solely within the authority of the Commission.

- *Director* - refers to one of the following:
  1. the Department
  2. the permitting body.
- *Disposal* - the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste or hazardous waste substance into or on land or water so that the hazardous waste, substance, or constituent enters the environment, is emitted into the air, or discharged into any waters of the state.
- *Existing Hazardous Waste Management (HWM) Facility* - a facility which was in operation or for which construction commenced on or before 19 November 1980, or is in existence on the effective date of statutory or regulatory changes under Oregon law that render the facility subject to the requirements of having a permit. A facility has commenced construction if:
  1. the owner or operator has obtained the Federal, state, and local approvals or permits necessary to begin physical construction; and either
  2. a continuous onsite, physical construction program has begun, or
  3. the owner or operator has entered into contractual obligations for physical construction of the facility to be completed within a reasonable time which cannot be cancelled or modified without substantial loss.
- *Facility* - all buildings, equipment, structures, and other stationary items located on a single site or on contiguous or adjacent sites and owned or operated by the same person or by any person who controls, is controlled by, or under common control with any person.
- *Fully Regulated Generator or Large Quantity Generator* - a hazardous waste generator who generates in any calendar month greater than 2.2 lb of acute hazardous waste, accumulates at any time greater than 2.2 lb of acute hazardous waste, or who generates in any calendar month greater than or equal to 2200 lb of hazardous waste.
- *Generator* - the person who, by virtue of ownership, management, or control, is responsible for causing or allowing the creation of a hazardous waste.
- *Hazardous Substance* - any substance intended for use which may also be identified as hazardous.
- *Household Use* - for use in or around households, including single and multiple residences, hotels, and motels.
- *Identification Number* - the number assigned by the U.S. Environmental Protection Agency (USEPA) to each generator, transporter, and treatment storage and disposal facility.
- *LC<sub>50</sub>* - lethal concentration 50 percent kill.
- *Management Facility* - a hazardous waste treatment, storage, or disposal facility.
- *Modified Spill Prevention Control and Countermeasure (SPCC) Plan* - the plan to prevent the spill of oil from a nontransportation-related facility that has been modified to include those hazardous substances and hazardous wastes handled at the facility.
- *Oil* - includes gasoline, crude oil, fuel oil, diesel oil, lubricating oil, sludge, oil refuse, and any other petroleum-related product.

- *Permitting Body* - refers to one of the following:
  1. the Department of Environmental Quality, when the activity or action pertains to hazardous waste storage or treatment facility permits
  2. the Environmental Quality Commission, when the activity or action pertains to hazardous waste disposal facility permits.
- *Permit or License* - the control document that contains the Oregon statutory requirements. Permit includes permit-by-rule and emergency permits. Permit does not, however, include any permit that has not yet been the subject of final Department action, such as a draft permit or a proposed permit.
- *Person* - the United States, the state, or a public or private corporation, local government unit, public agency, individual, partnership, association, firm, trust, estate, or any other legal entity.
- *Property Immediately Adjacent to* - that portion of any single lot, or set of contiguous lots with common ownership, that shares a common boundary with the property on which the used oil is generated, and which lies within 300 ft of the boundary of the property on which the used oil is generated.
- *RCRA Permit* - refers to Oregon hazardous waste management facility permit.
- *Reclamation* - a process to recover a usable product or to regenerate a usable material. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.
- *Recycled* - used, reused, or reclaimed.
- *Regional Administrator* - refers to one of the following:
  1. the Department
  2. the permitting body
  3. the Commission.
- *Reportable Quantity* - includes the following:
  1. any quantity of radioactive material or radioactive waste
  2. quantity of oil that would produce a visible oily slick, oily solids, or coat aquatic life, habitat, or property with oil if spilled into waters of the state or escape into waters of the state, excluding normal discharge from properly operating marine engines
  3. any quantity of oil over 1 barrel (42 gal) spilled on the surface of the land
  4. an amount equal to or greater than the quantities listed in the List of Hazardous Substances and Reportable Quantities
  5. 1 lb of nerve agents (such as GB (Sarin) or VX) if spilled or released offsite
  6. any quantity of nerve agents if spilled or released offsite
  7. an ambient air concentration for nerve agents monitored at the chemical storage perimeter or depot perimeter which is equal to or greater than  $3 \times 10^{-6}$  mg/m<sup>3</sup> for GB or VX
  8. an ambient air concentration for nerve agents monitored at or near a point of release equal to or greater than  $2 \times 10^{-2}$  mg/m<sup>3</sup> GB or  $4 \times 10^{-2}$  mg/m<sup>3</sup> VX
  9. 1 lb (0.454 kg) of pesticide residue as defined.
- *Reuse* - the return of a commodity to the economic mainstream for use in the same kind of application as before without change in its identity.
- *Site* - the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.
- *Small Quantity Generator* - generator who generates in any calendar month greater than 220 lb and less than 2200 lb of hazardous waste.

- *Spill or Release* - the discharge, deposit, injection, dumping, spilling, emitting, releasing, leaking, or placing of any oil or hazardous material into the air or into or on any land or waters of the state, except as authorized by permit, Federal law, or while being stored or used for its intended purpose.
- *Storage or Collection* - the containment of hazardous waste either on a temporary basis or for a period of years, in a manner that does not constitute disposal of the hazardous waste.
- *Threatened Spill or Release* - circumstances or events exist which indicate a spill or release of oil or hazardous material is likely and imminent.
- *Toxic Substance* - any substance in a gaseous, liquid, or solid state listed pursuant to Title III Section 313 of the Superfund Amendments and Reauthorization Act (SARA) of 1986, or any substance added by the Commission. Toxic substance does not include a substance when used as a pesticide or herbicide in routine commercial agricultural applications, or any substance deleted by the Commission.
- *Toxics Use* - use or production of a toxic substance.
- *Toxics Use Reduction* - in-plant changes in production, other processes or operations, products, or raw materials that reduce, avoid, or eliminate the use or production of toxic substances without creating substantial new risks to public health, safety, and the environment. Reduction may be proportionate to increases or decreases in production or other business changes. Reduction means application of any of the following techniques:
  1. input substitution, by replacing a toxic substance or raw material used in a production or other process or operation with a nontoxic or less toxic substance
  2. product reformulation, by substituting for an existing end product, an end product which is nontoxic or less toxic upon use, release, or disposal
  3. production or other process or operation modernization, by upgrading or replacing existing equipment and methods with other equipment and methods
  4. production or other process or operation redesign or modifications
  5. improved operation and maintenance of production processes, equipment, or methods, and modifications or additions to existing equipment or methods, including techniques such as improved housekeeping practices, system adjustments, product and process inspections, or production or process changes
  6. recycling, reuse, or extended use of toxics by using equipment or methods that become an integral part of the production or other process or operation of concern, including, but not limited to filtration and other methods.
- *Toxics User* - a large user, a large-, or a small-quantity generator.
- *Treatment* - any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character, or the composition of any hazardous waste to:
  1. neutralize such waste
  2. recover energy or material resources from the waste
  3. render such waste nonhazardous or less hazardous
  4. make it safer for transport storage or disposal
  5. make it amenable for recovery, amenable for storage, or reduce its volume.
- *Used or Reused* - a material that is:
  1. employed as an ingredient in an industrial process to make a product
  2. employed in a particular function or application as an effective substitute for a commercial product.

(NOTE: A material will not satisfy this condition if distinct components of the material are recovered as separate end products.)

- *Used Oil* - a petroleum-based oil which through use, storage, or handling has become unsuitable for its original purpose due to the presence of impurities or loss of original properties.
- *USEPA* - U.S. Environmental Protection Agency.
- *Waters of the State* - lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly, partially within, or bordering the state or within its jurisdiction.



**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA-C), SUBTITLE C**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Identification and Listing of Hazardous Waste	4-1 through 4-4
Generator Standards - All Installations	4-5 through 4-11
Small Quantity Generators	4-12
International Shipments	4-13
Manifests	4-14
Transporters - All Installations	4-15
Permits	4-16
Interim Status	4-17
Treatment, Storage, and Disposal Facilities (TSDFs) - General Standards	4-18 through 4-21
Emergency Response	4-22
Surface Impoundments	4-23
Land Treatment Facilities	4-24
Oil and Hazardous Material Spills And Releases	4-25 and 4-26
Used Oil Management	4-27 through 4-29
Toxic Use Reduction and Hazardous Waste Reduction Regulations	4-30 through 4-34
Annual Progress Progress Report Requirements	4-35

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COMPLIANCE CATEGORY: Resource Conservation and Recovery Act - Subtitle C (RCRA-C) Oregon Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<b>IDENTIFICATION AND LISTING OF HAZARDOUS WASTE</b>  <b>4-1.</b> Manufacturing process wastes and unused chemicals may be identified as hazardous wastes (OAR 340-101-033(2) and (3)).  <b>4-2.</b> Discarded commercial chemical products, off-specification species, container residues, and spill residues may be identified as hazardous wastes (OAR 340-135-110(2)(d) and 340-101-033(6)).	<p>Verify that any residue, including, but not limited to manufacturing process wastes and unused chemicals that meet the following requirements, are managed as hazardous waste:</p> <ul style="list-style-type: none"> <li>- a 3 percent or greater concentration of any substance or mixture of substances listed as an acute hazardous waste in the Federal regulations (40 CFR 261.33)</li> <li>- a 10 percent or greater concentration of any substance or mixture of substances listed as a toxic hazardous waste in the Federal regulations unless it is one of the following substances intended to be recycled:               <ul style="list-style-type: none"> <li>- U075 (dichlorodifluoromethane)</li> <li>- U121 (trichloromonofluoromethane).</li> </ul> </li> </ul> <p>(NOTE: The identification of the above wastes as hazardous is applied to manufacturing process waste only in the event the waste is not identified elsewhere.)</p> <p>Determine if the waste or its generic equivalent is on the Federal acute and/or toxic waste list for discarded chemical products.</p> <p>Verify that the waste is not regulated as part of remedial activities taken in response to environmental contamination.</p> <p>Verify that the wastes are managed as hazardous waste in the following activities:</p> <ul style="list-style-type: none"> <li>- when discarded or intended to be discarded</li> <li>- when mixed with waste oil or used oil or other material and applied to the land in lieu of their original intended use</li> <li>- when contained in products that are applied to the land in lieu of their original intended use</li> <li>- when, in lieu of their original intended use, they are produced for use as a fuel, distributed for use as a fuel, or burned as a fuel.</li> </ul> <p>Verify that the wastes meet the necessary small quantity exclusions defined by Federal regulations.</p> <p>Verify that the facility meets Federal acutely hazardous waste management requirements for P999, which includes nerve agents, such as GB (Sarin) and VX.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>4-3.</b> Pesticide residues or pesticide manufacturing residues may be identified as toxic hazardous waste (OAR 340-101-033(5)).</p>	<p>Determine if the pesticide residue or pesticide manufacturing residue meets the following qualifications to be identified as a toxic hazardous waste:</p> <ul style="list-style-type: none"> <li>- a representative sample of the residue exhibits a 96-h aquatic LC<sub>50</sub> equal to or less than 250 mg/L for residues listed with the toxicity characteristic, as specified by the Federal regulations, which pass the approved evaluation requirements.</li> </ul> <p>(NOTE: This requirement does not apply to residues exhibiting a toxicity characteristic as specified by the Federal regulations that passes the approved evaluation requirements.)</p> <p>Verify that a pesticide residue or pesticide manufacturing residue that meets the following qualifications is added to the list of hazardous wastes with nonspecific sources until a representative sample of the residue no longer exhibits an LC<sub>50</sub> equal to or less than 250 mg/L:</p> <ul style="list-style-type: none"> <li>- identified as a state toxic hazardous waste</li> <li>- not identified with a Federally recognized toxicity characteristic</li> <li>- not listed elsewhere in the Federal lists of hazardous wastes.</li> </ul> <p>(NOTE: The above hazardous waste is assigned the Hazardous Waste Number of X001.)</p>
<p><b>4-4.</b> Certain chemicals and chemical categories are listed by the State of Oregon as toxic substances and hazardous waste (OAR 340-135-040(1)).</p>	<p>Determine if the substance or waste is listed in Appendixes 4-1 through 4-3 or the following Federal lists:</p> <ul style="list-style-type: none"> <li>- hazardous wastes from nonspecific sources</li> <li>- hazardous wastes from specific sources</li> <li>- hazardous wastes from discarded commercial chemicals, off-specification species, container residues, spill residues, and manufacturing chemical intermediates.</li> </ul> <p>Verify that the substance or waste is properly identified and managed.</p> <p>(NOTE: The Department may add to or delete substances from the list.)</p>
<p><b>GENERATOR STANDARDS- ALL INSTALLATIONS</b></p>	
<p><b>4-5.</b> Generators of hazardous waste must meet Federal waste management requirements (OAR 340-102-010(2)).</p>	<p>Verify that the generator meets the Federal hazardous waste management requirements.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>4-6.</b> Specific facilities are exempt from the state generator requirements (OAR 340-102-010(4)).</p>	<p>Determine if the generator produces an unwanted pesticide residue from the following types of pest control activities which are exempt from the generator requirements:</p> <ul style="list-style-type: none"> <li>- agricultural</li> <li>- industrial</li> <li>- structural</li> <li>- ornamental and turf</li> <li>- forest</li> <li>- recreational</li> <li>- governmental</li> <li>- seed treatment</li> <li>- pesticide demonstration and research.</li> </ul>
<p><b>4-7.</b> Generators of solid waste must determine the classification of a waste as hazardous or non-hazardous (OAR 340-102-011).</p>	<p>Determine if the waste is an exempted waste.</p> <p>Verify that the following materials and criteria are used to identify hazardous waste:</p> <ul style="list-style-type: none"> <li>- listed waste, both Federal and state lists</li> <li>- testing according to specified methods</li> <li>- application of knowledge of the hazard characteristic of the waste in light of the materials or the processes used.</li> </ul> <p>Verify that the waste is not diluted to meet any hazardous waste standard without a permit.</p>
<p><b>4-8.</b> Generators must obtain a hazardous waste generator identification number from the Department (OAR 340-102-012).</p>	<p>Verify that the generator has an appropriate USEPA or state identification number.</p>
<p><b>4-9.</b> Generators may store waste onsite for up to 90 days without a permit (OAR 340-102-034).</p>	<p>Verify that the generator meets the Federal time requirements for the accumulation of hazardous waste.</p> <p>Verify that the generator does not store the waste onsite for longer than 90 days without a permit.</p> <p>Verify that generators storing more than 100 containers place the waste in a storage unit which meets the Federal requirements for ignitable and reactive wastes.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>4-10.</b> Generators must submit annual reports to the Department (OAR 340-102-041).</p>	<p>Verify that the following generators submit an annual report to the Department:</p> <ul style="list-style-type: none"> <li>- small quantity hazardous waste generators</li> <li>- large quantity hazardous waste generators</li> <li>- hazardous waste recyclers</li> <li>- generators receiving waste from offsite.</li> </ul> <p>Verify that the report is submitted on a Department form and covers activities from the previous calendar year.</p> <p>Verify that the report is submitted by 1 March or within 65 days of mailing by the Department, whichever is later.</p> <p>(NOTE: The Department can grant a 30-day extension.)</p> <p>Verify that the annual report contains the following information:</p> <ul style="list-style-type: none"> <li>- information required for purposes of notification of hazardous waste activity and/or annual verification of hazardous waste generator status</li> <li>- hazardous waste generator and waste management activity information</li> <li>- information required for the Department's preparation and completion of the Biennial Report and Capacity Assurance Plan.</li> </ul> <p>(NOTE: The provisions of this section replace the Federal biennial reporting requirements.)</p>
<p><b>4-11.</b> Generators must retain reports submitted to the Department for at least 3 yr from the due date of the report (OAR 340-102-040).</p>	<p>Verify that the generator retains a copy of reports submitted to the Department at least 3 yr from the due date of the report.</p> <p>(NOTE: This provision replaces the Federal report retention requirements.)</p>
<p><b>SMALL QUANTITY GENERATORS</b></p>	
<p><b>4-12.</b> Small quantity generators must meet specific Federal recordkeeping and reporting requirements (OAR 340-102-044).</p>	<p>Determine if the generator is a small quantity generator.</p> <p>Verify that the small quantity generator meets the following Federal recordkeeping and reporting requirements:</p> <ul style="list-style-type: none"> <li>- manifest</li> <li>- retain records of test results, waste analyses, or other determinations</li> <li>- exception reporting.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>INTERNATIONAL SHIPMENTS</b>  <b>4-13.</b> Generators shipping waste outside of the United States must meet exporting requirements (OAR 340-102-050).  <b>MANIFESTS</b>  <b>4-14.</b> Generators must make use of the Uniform Hazardous Waste Manifest (OAR 340-102-060).  <b>TRANSPORTERS - ALL INSTALLATIONS</b>  <b>4-15.</b> Transporters must report discharges to the Oregon Emergency Management Division (OAR 340-103-030 and 340-103-031).  <b>PERMITS</b>  <b>4-16.</b> Facilities that operate hazardous treatment, storage, and disposal facilities must have appropriate permits from the Department (OAR 340-105-001(4)(b)).	<p>Verify that the generator meets all Federal requirements for exporting hazardous waste.</p> <p>Verify that the generator notifies the Department of Environmental Quality, Hazardous Waste Section, of the intent to export hazardous waste.</p> <p>Verify that the generator meets the Federal requirements for use of the Uniform Hazardous Waste Manifest.</p> <p>Verify that the generator includes in the Uniform Hazardous Waste Manifest a telephone number where authorized agents for the following people can be reached in the event of an emergency:</p> <ul style="list-style-type: none"> <li>- first transporter</li> <li>- second transporter</li> <li>- facility.</li> </ul> <p>Verify that the USEPA Hazardous Waste Number is entered on the form.</p> <p>(NOTE: The authorized disposal request number may also be entered.)</p> <p>Verify that the transporter meets Federal immediate action requirements.</p> <p>Verify that the transporter who has discharged hazardous waste reports the discharge to the Oregon Emergency Management Division (1-800-452-0311).</p> <p>Verify that the transporter cleans up any hazardous waste discharge or takes such action as may be required or approved by Federal, state, or local officials so that the discharge no longer presents a threat to human health or the environment.</p> <p>Verify that the facility has the appropriate permit from the Department for the active life, closure, and postclosure care period of the facility.</p> <p>Verify that the facility meets Federal permit requirements.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>INTERIM STATUS</b>  <b>4-17.</b> Hazardous waste management facilities without permits must meet interim status management requirements (OAR 340-105-010(6)).	<p>Determine if the facility has an effective permit.</p> <p>Verify that a facility without an effective hazardous waste management facility permit meets the Federal interim status requirements until final administrative disposition of a permit is made.</p>
<b>TREATMENT, STORAGE, AND DISPOSAL FACILITIES (TSDFs)- GENERAL STANDARDS</b>  <b>4-18.</b> TSDFs must meet Federal hazardous waste management requirements (OAR 340-104-001).	<p>Determine if the facility is a TSDF.</p> <p>Verify that the facility meets all applicable Federal hazardous waste management requirements.</p> <p>Verify that a permitted facility disposing of hazardous waste by means of underground injection meets the following Federal hazardous waste management requirements:</p> <ul style="list-style-type: none"> <li>- identification</li> <li>- personnel training</li> <li>- manifest system</li> <li>- manifest discrepancies</li> <li>- operating record</li> <li>- periodic report</li> <li>- unmanifested waste report.</li> </ul> <p>Verify that a permitted facility disposing of hazardous waste by means of underground injection submits certification at closure of the facility that ensures that plugging and abandonment of the well will not allow the movement of fluids either into an underground source of drinking water or from one underground source of drinking water to another.</p> <p>Verify that the facility has the appropriate permit for treating or disposing of hazardous waste.</p>
<b>4-19.</b> TSDFs must have an USEPA identification number (OAR 340-104-011).	<p>Verify that the facility obtains a USEPA state identification number.</p> <p>Verify that the facility meets Federal USEPA identification requirements.</p>



<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>4-20.</b> Facilities must meet emergency procedure requirements (OAR 340-104-056).	<p>Verify that the facility meets Federal emergency procedure requirements.</p> <p>Verify that the facility immediately notifies either the Department or the Oregon Emergency Management Division (1-800-452-0311) in the event of an emergency at the facility.</p> <p>Verify that the facility submits a report to the Department about the emergency and any and all actions taken.</p> <p>Verify that the facility's report includes the following additional information:</p> <ul style="list-style-type: none"> <li>- the steps taken to prevent a recurrence of the incident</li> <li>- any changes required in the contingency plan.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>4-21.</b> TSDFs must submit annual reports to the Department (OAR 340-104-075(3)).</p>	<p>Verify that the facility submits an annual report to the Department on the appropriate Departmental form, detailing the required activities of the previous year.</p> <p>Verify that the report is submitted by 1 March or within 65 days of mailing by the Department, whichever is later.</p> <p>(NOTE: The Department can grant 30-day extensions.)</p> <p>Verify that the annual report contains the following information:</p> <ul style="list-style-type: none"> <li>- notification and identification status</li> <li>- hazardous waste management and facility information</li> <li>- information required for the Department's preparation and completion of the Biennial Report and Capacity Assurance Plan</li> <li>- the most recent closure and postclosure cost estimate</li> <li>- the appropriate Federally required certification sign by the owner or operator of the facility or the owner/operator's authorized representative</li> <li>- monitoring data.</li> </ul>
<p><b>EMERGENCY RESPONSE</b></p> <p><b>4-22.</b> An emergency response team must be located within 25 mi of the facility (OAR 340-120-025).</p>	<p>Verify that an emergency response team owned by or under contract to the facility is located within 25 mi of the facility.</p> <p>Verify that the emergency response team is capable of immediately responding to spills of waste being transported to the facility that occur within 50 mi of the facility.</p>
<p><b>SURFACE IMPOUNDMENTS</b></p> <p><b>4-23.</b> Surface impoundments must meet specific closure requirements (340-104-228).</p>	<p>Determine if the facility is a surface impoundment.</p> <p>Verify that the facility removes or decontaminates all waste residues, contaminated containment system components, contaminated subsoils, and structure and equipment contaminated with waste and leachate, and manages them as hazardous waste, unless the waste does not meet the definition of hazardous waste.</p> <p>(NOTE: The state requirements are more stringent than Federal requirements, in that Federal regulations allow the facility to be closed with wastes in place.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>4-23 (continued)</b></p> <p><b>LAND TREATMENT FACILITIES</b></p> <p><b>4-24.</b> Land treatment facilities must not grow crops intended for human consumption (OAR 340-104-276).</p> <p><b>OIL AND HAZARDOUS MATERIAL SPILLS AND RELEASES</b></p> <p><b>4-25.</b> Hazardous waste management facilities must take specific actions in the event of a spill, release, or threat of a spill or release (OAR 340-108-010 and 340-108-020).</p>	<p>Verify that the facility is closed in accordance with all Federal closure and postclosure requirements, if the facility cannot practicably remove or decontaminate all wastes.</p> <p>Verify that surface impoundments which do not meet the Federal liner requirements prepare a closure plan and contingency plan for removing the waste.</p> <p>Verify that the facility does not grow crops intended for human consumption.</p> <p>Determine if a spill or release has occurred that meets the definition of a reportable quantity.</p> <p>Verify that the facility's SPCC plan or other applicable contingency plan is immediately implemented.</p> <p>Verify that the facility takes the following actions in the order listed if a SPCC or contingency plan was not required for the facility:</p> <ul style="list-style-type: none"> <li>- activate alarms or otherwise warn persons in the immediate area</li> <li>- undertake every reasonable method to contain the oil or hazardous material.</li> </ul> <p>Verify that 911 or the local fire and/or police are called if the responsible person determines that a medical emergency or public safety hazard exists that requires the services of local emergency responders.</p> <p>Verify that any spill or release of oil or hazardous material exceeding the reportable quantity limit is reported to the Oregon Emergency Management Division.</p>

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act - Subtitle C (RCRA-C) Oregon Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
4-25 (continued)	<p>Verify that any spill or release of materials on the Federal List of Hazardous Substances and Reportable Quantities which exceeds the reportable quantity limits is reported to the National Response Center.</p> <p>(NOTE: The following spills and releases need not be reported:</p> <ul style="list-style-type: none"> <li>- occurring on public or private property and known to the person owning or having control over oil or hazardous material or their designated representative,</li> <li>- occurring on a surface impervious to the oil or hazardous material spilled or released, and it is fully contained, or</li> <li>- completely cleaned without further incident, including fixing or repairing the cause of the spill or release.)</li> </ul>
4-26. Facilities must take appropriate measures to clean spills and releases of oil and/or hazardous waste (OAR 340-108-030).	<p>Determine if the spill is a mixture of solid and hazardous waste that exhibits a characteristic of hazardous waste or is a hazardous waste that is listed solely because it exhibits one or more characteristics of a hazardous waste.</p> <p>Verify that the best available methods of cleanup are employed to achieve the lowest practicable level of contamination, as determined by the Department.</p> <p>Verify that an identified spill is cleaned so that any remaining waste no longer exhibits a characteristic of hazardous waste.</p> <p>Verify that the mixed waste is cleaned and the site returned to background levels.</p> <p>(NOTE: The removed waste or waste mixture must be shipped to an authorized hazardous waste treatment or disposal facility.)</p> <p>Verify that any waste remaining at the facility is properly managed.</p>
USED OIL MANAGEMENT	
4-27. Used oil generated by a business or industry must meet content and use requirements (OAR 340-111-010(2)).	<p>Determine if the used oil is generated by a business, industry, or a household.</p> <p>Verify that the oil does not contain any of the following:</p> <ul style="list-style-type: none"> <li>- PCB</li> <li>- hazardous waste</li> <li>- a characteristic of hazardous waste.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>4-27. (continued)</b>	<p>Verify that used oil is reused in one of the following manners:</p> <ul style="list-style-type: none"> <li>- used on the property leased or owned by the person who generated the used oil</li> <li>- used on property adjacent to the site of generation if written approval is obtained from the owner of the property where the oil is to be applied.</li> </ul> <p>Verify that the facility meets the Federal used oil management requirements.</p>
<b>4-28.</b> Facilities must meet prohibitions for the use and disposal of used oil (OAR 340-111-030).	<p>Verify that used oil is not disposed of by discharge into sewers, drainage systems, or waters of the state, unless permitted by Federal regulations.</p> <p>Verify that used oil, including products made from used oil, are not used as dust suppressant or pesticide or otherwise spread directly in the environment, unless the following occur:</p> <ul style="list-style-type: none"> <li>- the used oil has not been mixed with hazardous waste, other than a hazardous waste identified solely due to the characteristic of ignitability</li> <li>- the used oil has been tested and does not exceed the levels for each of the following materials:             <ul style="list-style-type: none"> <li>- lead: 5 mg/L</li> <li>- cadmium: 1 mg/L</li> <li>- chromium: 5 mg/L</li> <li>- arsenic: 5 mg/L</li> <li>- PCB: none detectable with a testing detection limit of 1 mg/L</li> <li>- total halogens: 1000 mg/L</li> <li>- benzene: 0.5 mg/L</li> <li>- carbon tetrachloride: 0.5 mg/L</li> <li>- chloroform: 6 mg/L</li> <li>- 1,4 dichlorobenzene: 7.5 mg/L</li> <li>- 1,2 dichloroethane: 0.5 mg/L</li> <li>- 1,1 dichloroethylene: 0.7 mg/L</li> <li>- tetrachloroethylene: 0.7 mg/L</li> <li>- trichloroethylene: 0.5 mg/L.</li> </ul> </li> </ul> <p>(NOTE: The total halogen limit is 1000 mg/L unless it is demonstrated that the concentration of each halogenated solvent or other halogenated molecules identified as hazardous waste in the Federal regulations does not exceed 100 mg/L and that none of the concentration levels for halogenated molecules set in the Federal regulations are exceeded.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>4-29.</b> Facilities marketing or using used oil or used oil products for dust control or as a pesticide or spreading used oil directly in the environment must meet used oil management requirements (OAR 340-111-040).</p>	<p>Determine if the facility markets or uses used oil or used oil products for dust control, as a pesticide, or spreads used oil directly in the environment.</p> <p>Verify that the facility notifies the Department of the location and general description of all used oil management activities on Department forms.</p> <p>Verify that used oil which has been tested and found not to exceed the required limits is stored separately from other used oil before use.</p> <p>(NOTE: If untested used oil is added to a tank or other storage container containing tested used oil, the entire tank must be retested and determined not to exceed the required limits before its use.)</p> <p>Verify that the following records are produced and retained for at least 3 yr:</p> <ul style="list-style-type: none"> <li>- copies of testing results used to determine that used oil does not exceed required limits</li> <li>- records on the quantity of oil in each tank or container tested, and quantity and geographic location where used oil was spread directly in the environment, cross-referenced to the testing results used to determine that the used oil meets specifications</li> <li>- copies of invoices stating: <ul style="list-style-type: none"> <li>- name, address, and USEPA identification numbers of both the shipping and receiving facilities</li> <li>- the quantity of oil delivered</li> <li>- date of delivery</li> <li>- a copy of test results</li> <li>- the following statement: This used oil is subject to the requirements of Oregon Administrative Rules 340 Division 111 for all used oil shipments intended or destined to be spread directly in the environment.</li> </ul> </li> </ul> <p>Verify that the facility submits quarterly reports to the Department on the use of used oil.</p> <p>Verify that the reports are filed within 45 days of the end of each calendar quarter and include:</p> <ul style="list-style-type: none"> <li>- the name, address, and USEPA/DEQ Identification Number of the person spreading used oil</li> <li>- the calendar quarter for which the report is being made</li> <li>- the quantity, location, and date that used oil was spread</li> <li>- if no used oil was spread, a statement to that effect</li> <li>- test results for the used oil, cross-references to the date and location where used oil was spread.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>TOXIC USE REDUCTION AND HAZARDOUS WASTE REDUCTION REGULATIONS</b>  <b>4-30.</b> Large users, large quantity generators, and small quantity generators must complete toxic use reduction plans (OAR 340-135-030(2)).  <b>4-31.</b> Toxic users must set performance goals (OAR 340-135-030(3)).  <b>4-32.</b> Toxic users that manufacturer any of the toxic substances listed in the state toxic and hazardous substances list as a product are not required to create a reduction plan or set performance goals (OAR 340-135-030(4)).  <b>4-33.</b> Toxic users must follow specific procedures in creating a reduction plan (OAR 340-135-050).	<p>Verify that all large users, large quantity generators, and small quantity generators complete a toxic use reduction plan.</p> <p>Verify that the following toxics users set performance goals:</p> <ul style="list-style-type: none"> <li>- all large users, large quantity generators, or small quantity generators who use any toxic substance in quantities greater than 10,000 lb in a calendar year</li> <li>- all large users, large quantity generators, or small quantity generators who use any toxic substance in quantities greater than 1000 lb in a calendar year; toxic substances equal greater than 10 percent of total toxics used in a calendar year</li> <li>- all large quantity generators who generate a hazardous waste that represents 10 percent or more by weight of the cumulative hazardous wastes generated in a calendar year.</li> </ul> <p>Determine if the toxic user manufacturers any of the state-listed toxic substances as a product.</p> <p>Verify that the plan covers a minimum period of 5 yr and a maximum period of 10 yr.</p> <p>Verify that the plan gives priority to implementing toxics use reduction alternatives over hazardous waste reduction alternatives.</p> <p>Verify that the plan is retained at the facility.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>4-33. (continued)</b>	<p>Verify that the plan includes the following components, at a minimum:</p> <ul style="list-style-type: none"> <li>- policy statement</li> <li>- scope and objectives</li> <li>- reduction assessments</li> <li>- waste generation</li> <li>- accounting system</li> <li>- employee awareness and training</li> <li>- institutionalization of plan into management practices and procedures</li> <li>- feasibility analysis</li> <li>- plan implementation</li> <li>- performance goals.</li> </ul> <p>Verify that the toxics user notifies the Department upon completion of the reduction plan.</p> <p>Verify that the notice is on a form provided by the Department and contains the:</p> <ul style="list-style-type: none"> <li>- signature of senior manager or business owner</li> <li>- Standard Industrial Classification (SIC) Code</li> <li>- name, physical location, and mailing address of toxics users</li> <li>- USEPA hazardous waste identification number, if applicable</li> <li>- USEPA toxic release inventory (TRI) identification number, if applicable</li> <li>- time period covered by the plan.</li> </ul> <p>Verify that the notice is submitted no later than 1 September of the calendar year after the facility became a toxics user.</p>
<b>4-34. Toxics users must establish specific performance goals for the reduction of toxics use and hazardous waste (OAR 340-135-060).</b>	<p>Verify that the following categories are dealt with in the performance goals:</p> <ul style="list-style-type: none"> <li>- any toxic substance used in quantities in excess of 10,000 lb in a calendar year</li> <li>- any toxic substance used in quantities in excess of 1000 lb in a calendar year that constitutes 10 percent or more of the total toxic substances used in that calendar year</li> <li>- for large quantity generators, any hazardous waste representing 10 percent or more by weight of the cumulative hazardous wastes generated in a calendar year.</li> </ul> <p>(NOTE: Performance goals are not required for listed toxic substances that are a product manufactured by the toxic users.)</p> <p>Verify that the performance goals are expressed in numeric terms.</p> <p>Verify that the numeric terms are stated in percent reduction of pounds for at least a 2-yr, a 5-yr, and an optional 10-yr period.</p>



<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>4-34. (continued)</b>	<p>Verify that the toxics user explains the rationale for each performance goal addressing the following impediments:</p> <ul style="list-style-type: none"> <li>- the availability of technically practicable toxics use reduction and hazardous waste reduction methods, including any anticipated changes in the future</li> <li>- the economic practicability of available toxics use reduction and hazardous waste reduction methods, including any anticipated changes in the future</li> <li>- cross media impacts that result in more severe environmental or human exposure to toxic substances.</li> </ul> <p>(NOTE: If the toxics user is unable to establish a specific numeric performance, the performance goal must include a clearly stated list of objectives designed to lead to the establishment of a numeric goal as soon as practicable.)</p>
<b>ANNUAL PROGRESS REPORT REQUIREMENTS</b>	
<b>4-35.</b> Toxics users that complete a toxics use reduction plan must also complete annual progress reports (OAR 340-135-070).	<p>Determine if the toxics user completed a reduction plan.</p> <p>Verify that the toxics user completes an annual progress report before 1 September of each year.</p> <p>(NOTE: Small quantity generators in calendar year 1991 must complete their first annual progress report on or before 1 September 1993.)</p> <p>Verify that the annual progress report contains the following information:</p> <ul style="list-style-type: none"> <li>- analysis of the progress made, if any, in toxics use reduction and hazardous waste reduction related to each performance goal established</li> <li>- any amendments to the toxics use reduction and hazardous waste reduction plan and an explanation of the need for the amendments</li> <li>- annual quantities, in pounds, of toxics used to relate to the performance goals</li> <li>- narrative summary explaining the data.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle C (RCRA-C)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>4-35. (continued)</b>	<p>Verify that the following information from the annual progress report is submitted to the Department, on a Departmental form, no later than 1 September of each calendar year succeeding the year a plan is completed:</p> <ul style="list-style-type: none"> <li>- name, mailing address and physical location of toxics user</li> <li>- SIC Code</li> <li>- USEPA identification number, if applicable</li> <li>- TRI identification number, if applicable</li> <li>- chemical name, CAS number, and annual number of pounds used for each toxic substance for which a performance goal is required</li> <li>- name of the hazardous waste, waste code, and annual number of pounds generated for each hazardous waste for which a performance goal is required</li> <li>- narrative explaining the data.</li> </ul> <p>Verify that a copy of each annual report is retained at the facility.</p>

## Appendix 4-1

### Toxic Substances and Hazardous Wastes

(OAR 340-135-Appendix 1(1)(a))

The following list of toxic substances and hazardous wastes are subject to the toxics use and hazardous waste reduction requirements of OAR 340-135-000 through 340-135-110 and Oregon Revised Statutes (ORS) 465.003 through 465.037.

CAS Number	Chemical Name	De Minimis Concentration (Percent)
75-07-0	Acetaldehyde	0.1
60-35-5	Acetamide	0.1
67-64-1	Acetone	1.0
75-05-8	Acetonitrile	1.0
53-96-3	2-Acetylaminofluorene	0.1
107-02-8	Acrolein	1.0
79-06-1	Acrylamide	0.1
79-10-7	Acylic Acid	1.0
107-13-1	Acrylonitrile	0.1
309-00-2	Aldrin [1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a.beta.)-]	1.0
107-18-6	Allyl Alcohol	1.0
107-05-1	Allyl chloride	1.0
7429-90-5	Aluminum (fume or dust)	1.0
1344-28-1	Aluminum oxide (fibrous form)	0.1
117-79-3	2-Aminoanthraquinone	0.1
60-09-3	4-Aminoazobenzene	0.1
92-67-1	4-Aminobiphenyl	0.1
82-28-0	1-Amino-2-methylanthraquinone	0.1
7664-41-7	Ammonia	1.0
6484-52-2	Ammonium nitrate (solution)	1.0
7783-20-2	Ammonium sulfate (solution)	1.0
62-53-3	Aniline	1.0
90-04-0	o-Anisidine	0.1
104-94-9	p-Anisidine	1.0
134-29-2	o-Anisidine hydrochloride	0.1
120-12-7	Anthracene	1.0
7440-36-0	Antimony	1.0

**Appendix 4-1 (continued)**

<b>CAS Number</b>	<b>Chemical Name</b>	<b>De Minimis Concentration (Percent)</b>
7440-38-2	Arsenic	0.1
1332-21-4	Asbestos (friable)	0.1
7440-39-3	Barium	1.0
98-87-3	Benzal chloride	1.0
55-21-0	Benzamide	1.0
71-43-2	Benzene	0.1
92-87-5	Benzidine	0.1
98-07-7	Benzoic trichloride (Benzothrichloride)	0.1
98-88-4	Benzoyl chloride	1.0
94-36-0	Benzoyl peroxide	1.0
100-44-7	Benzyl chloride	1.0
7440-41-7	Beryllium	0.1
92-52-4	Biphenyl	1.0
111-44-4	Bis(2-chloroethyl)ether	1.0
542-88-1	Bis(chloromethyl) ether	0.1
108-60-1	Bis(2-chloro-1-methylethyl)ether	1.0
103-23-1	Bis(2-ethylhexyl) adipate	1.0
353-59-3	Bromochlorodifluoromethane (Halon 1211)	1.0
75-25-2	Bromoform (Tribromomethane)	1.0
74-83-9	Bromomethane (Methyl bromide)	1.0
75-63-8	Bromotrifluoromethane (Halon 1301)	1.0
106-99-0	1,3-Butadiene	0.1
141-32-2	Butyl acrylate	1.0
71-36-3	n-Butyl alcohol	1.0
78-92-2	sec-Butyl alcohol	1.0
75-65-0	tert-Butyl alcohol	1.0
85-68-7	Butyl benzyl phthalate	1.0
106-88-7	1,2-Butylene oxide	1.0
123-72-8	Butyraldehyde	1.0
4680-78-8	C.I. Acid Green 3	1.0
569-64-2	C.I. Basic Green 4	1.0
989-38-8	C.I. Basic Red 1	0.1
1937-37-7	C.I. Direct Black 38	0.1
2602-46-2	C.I. Direct Blue 6	0.1
16071-86-6	C.I. Direct Brown 95	0.1
2832-40-8	C.I. Disperse Yellow 3	1.0
3761-53-3	C.I. Food Red 5	0.1
3118-97-6	C.I. Solvent Orange 7	1.0
97-56-3	C.I. Solvent Yellow 3	0.1
842-07-9	C.I. Solvent Yellow 14	0.1
492-80-8	C.I. Solvent Yellow 34 (Auramine)	0.1
128-66-5	C.I. Vat Yellow 4	1.0
7440-43-9	Cadmium	0.1
156-62-7	Calcium cyanamide	1.0
13-06-2	Captan (1H-Isoindole-1,3(2H)-dione,	1.0

Appendix 4-1 (continued)

CAS Number	Chemical Name	De Minimis Concentration (Percent)
63-25-2	3a,4,7,7a-tetrahydro-2- [(trichloromethyl)thio]- Carbaryl [1-Naphthalenol, methylcarbamate]	1.0
75-15-0	Carbon disulfide	1.0
56-23-5	Carbon tetrachloride	0.1
463-58-1	Carbonyl sulfide	1.0
120-80-9	Catechol	1.0
133-90-4	Chloramben [Benzoic acid, 3-amino-2,5-dichloro-]	1.0
57-74-9	Chlordane [4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro- 2,3,3a,4,7,7a-hexahydro-]	1.0
7782-50-5	Chlorine	1.0
10049-04-4	Chlorine dioxide	1.0
79-11-8	Chloroacetic acid	1.0
532-27-4	2-Chloroacetophenone	1.0
108-90-7	Chlorobenzene	1.0
510-15-6	Chlorobenzilate [Benzeneacetic acid, 4-chloro-.alpha.-(4-chlorophenyl)- .alpha.-hydroxy-,ethyl ester]	1.0
75-00-3	Chloroethane (Ethyl chloride)	1.0
67-66-3	Chloroform	0.1
74-87-3	Chloromethane	1.0
107-30-2	Chloromethyl methyl ether	0.1
126-99-8	Chloroprene	1.0
1897-45-6	Chlorothalonil [1,3- Benzenedicarbonitrile,2,4,5,6- tetrachloro-]	1.0
7440-47-3	Chromium	0.1
7440-48-4	Cobalt	1.0
7440-50-8	Copper	1.0
8001-58-9	Creosote	0.1
120-71-8	p-Cresidine	0.1
1319-77-3	Cresol (mixed isomers)	1.0
108-39-4	m-Cresol	1.0
95-48-7	o-Cresol	1.0
106-44-5	p-Cresol	1.0
98-82-8	Cumene	1.0
80-15-9	Cumene hydroperoxide	1.0
135-20-6	Cupferron [Benzeneamine,N-hydroxy-N-nitroso, ammonium salt]	0.1
110-82-7	Cyclohexane	1.0
94-75-7	2,4-D [acetic acid, 2,4-dichloro-phenoxy]-]	1.0

**Appendix 4-1 (continued)**

<b>CAS Number</b>	<b>Chemical Name</b>	<b>De Minimis Concentration (Percent)</b>
1163-19-5	Decabromodiphenyl oxide	1.0
2303-16-4	Diallate [Carbamothioic acid,bis (1-methylethyl)- S-(2,3-dichloro-2-propenyl) ester]	1.0
615-05-4	2,4-Diaminoanisole	0.1
39156-41-7	2,4-Diaminoanisole sulfate	0.1
101-80-4	4,4'-Diaminodiphenyl ether	0.1
25376-45-8	Diaminotoluene (mixed isomers)	0.1
95-80-7	2,4-Diaminotoluene	0.1
34-88-3	Diazomethane	1.0
132-64-9	Dibenzofuran	1.0
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	0.1
106-93-4	1,2-Dibromoethane (Ethylene dibromide)	0.1
124-73-2	Dibromotetrafluoroethane (Halon 2402)	1.0
84-74-2	Dibutyl phthalate	1.0
25321-22-6	Dichlorobenzene (mixed isomers)	0.1
95-50-1	1,2-Dichlorobenzene	1.0
541-73-1	1,3-Dichlorobenzene	1.0
106-46-7	1,4-Dichlorobenzene	0.1
91-94-1	3,3'-Dichlorobenzidine	0.1
75-27-4	Dichlorobromomethane	1.0
120-83-2	2,4-Dichlorophenol	1.0
78-87-5	1,2-Dichloropropane	1.0
78-88-6	2,3-Dichloropropene	1.0
542-75-6	1,3-Dichloropropylene	0.1
76-14-2	Dichlorotetrafluoroethane (CFC-114)	1.0
62-73-7	Dichlorvos [Phosphoric acid, 2 dichloroethenyl dimethyl ester]	1.0
115-32-2	Dicofol [Benzenemethanol, 4-chloro- .alpha.-4-chlorophenyl)- .alpha. -(trichloromethyl)-]	1.0
1464-53-5	Diepoxybutane	0.1
111-42-2	Diethanolamine	1.0
117-81-7	Di-(2-ethylhexyl) phthalate (DEHP)	0.1
84-66-2	Diethyl phthalate	1.0
64-67-5	Diethyl sulfate	0.1
119-90-4	3,3'-Dimethoxybenzidine	0.1
60-11-7	4-Dimethylaminoazabenzene	0.1
119-93-7	3,3'-Dimethylbenzidine (o-Tolidine)	0.1

Appendix 4-1 (continued)

CAS Number	Chemical Name	De Minimis Concentration (Percent)
79-44-7	Dimethylcarbaryl chloride	0.1
57-14-7	1,1-Dimethyl hydrazine	0.1
105-67-9	2,4-Dimethylphenol	1.0
131-11-3	Dimethyl phthalate	1.0
77-78-1	Dimethyl sulfate	0.1
99-65-0	m-Dinitrobenzene	1.0
528-29-0	o-Dinitrobenzene	1.0
100-25-4	p-Dinitrobenzene	1.0
534-52-1	4,6--Dinitro-o-cresol	1.0
51-28-5	2,4-Dinitrophenol	1.0
121-14-2	2,4-Dinitrotoluene	1.0
606-20-2	2,6-Dinitrotoluene	1.0
25321-14-6	Dinitrotoluene (mixed isomers)	1.0
117-84-0	Di (n-octyl phthalate	1.0
123-91-1	1,4-Dioxane	0.1
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)	0.1
106-89-8	Epichlorohydrin	0.1
110-80-5	2-Ethoxyethanol	1.0
140-88-5	Ethyl acrylate	0.1
100-41-4	Ethylbenzene	1.0
541-41-3	Ethyl chloroformate	1.0
74-85-1	Ethylene	1.0
107-21-1	Ethylene glycol	1.0
151-56-4	Ethyleneimine (Aziridine)	0.1
75-21-8	Ethylene oxide	0.1
96-45-7	Ethylene thiourea	0.1
2164-17-2	Fluometuron [Urea,N,N-dimethyl-N'-[3-(trifluoromethyl) phenyl]-]	1.0
50-00-0	Formaldehyde	0.1
76-13-1	Freon 113 [Ethane 1,1,2-trichloro-1,2,2-trifluoro-]	1.0
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene]	1.0
118-74-1	Hexachlorobenzene	0.1
87-68-3	Hexachloro-1,3-butadiene	1.0
77-47-4	Hexachlorocyclopentadiene	1.0
67-72-1	Hexachloroethane	1.0
1335-87-1	Hexachloronaphthalene	1.0
680-31-9	Hexamethylphosphoramide	0.1
302-01-2	Hydrazine	0.1
10034-93-2	Hydrazine sulfate	0.1

**Appendix 4-1 (continued)**

<b>CAS Number</b>	<b>Chemical Name</b>	<b>De Minimis Concentration (Percent)</b>
7647-01-0	Hydrochloric acid	1.0
74-90-8	Hydrogen cyanide	1.0
7664-39-3	Hydrogen fluoride	1.0
123-31-9	Hydroquinone	1.0
78-84-2	Isobutyraldehyde	1.0
67-63-0	Isopropyl alcohol (manufacturing- strong acid process, no supplier notification)	0.1
80-05-7	4,4'-Isopropylidenediphenol	1.0
120-58-1	Isosafrole	1.0
7439-92-1	Lead	0.1
58-89-9	Lindane	0.1
	[Cyclohexane 1,2,3,4,5,6-hex- achloro-, (1.alpha.,2.alpha.,3.beta., 4.alpha.,5.alpha.,6.beta.)-]	
108-31-6	Maleic anhydride	1.0
12427-38-2	Maneb [Carbamodithioic acid, 1,2- ethanediybis-, manganese complex]	1.0
7439-96-5	Manganese	1.0
7439-97-6	Mercury	1.0
67-56-1	Methanol	1.0
72-43-5	Methoxychlor [Benzene,1,1'-(2,2,2- trichloroethylidene)bis[4-methoxy-]]	1.0
109-86-4	2-Methoxyethanol	1.0
96-33-3	Methyl acrylate	1.0
1634-04-4	Methyl tert-butyl ether	1.0
101-14-4	4,4'-Methylenebis (2-chloro aniline)	1.0
	(MBOCA)	
101-61-1	4,4'-Methylenebis (N,N-dimethyl) benzenamine	0.1
101-68-8	Methylenebis (phenylisocyanate) (MBI)	1.0
74-95-3	Methylene bromide	1.0
101-77-9	4,4'-Methylenedianiline	0.1
78-93-3	Methyl ethyl ketone	1.0
60-34-4	Methyl hydrazine	1.0
74-88-4	Methyl iodine	0.1
108-10-1	Methyl isobutyl ketone	1.0
624-83-9	Methyl isocyanate	1.0
80-62-6	Methyl methacrylate	1.0
90-94-8	Michler's ketone	0.1
1313-27-5	Molybdenum trioxide	1.0
76-15-3	Monochloropentafluoroethane (CFC-115)	1.0
505-60-2	Mustard gas [Ethane, 1,1'-thiobis [2-chloro-]]	0.1



Appendix 4-1 (continued)

CAS Number	Chemical Name	De Minimis Concentration (Percent)
91-20-3	Naphthalene	1.0
134-32-7	alpha-Naphthylamine	0.1
91-59-8	beta-Naphthylamine	0.1
7440-02-0	Nickel	0.1
7697-37-2	Nitric acid	1.0
139-13-9	Nitrilotriacetic acid	0.1
99-59-2	5-Nitro-o-anisidine	0.1
98-95-3	Nitrobenzene	1.0
92-93-3	4-Nitrobiphenyl	0.1
1836-75-5	Nitrofen [Benzene, 2,3-dichloro-1-(4-nitrophenoxy)-]	0.1
51-75-2	Nitrogen mustard [2-Chloro-N-(2-chloroethyl) -N-methylethanamine]	0.1
55-63-0	Nitroglycerin	1.0
88-75-5	2-Nitrophenol	1.0
100-02-7	4-Nitrophenol	1.0
79-46-9	2-Nitropropane	0.1
156-10-5	p-Nitrosodiphenylamine	0.1
121-69-7	N,N-Dimethylaniline	1.0
924-16-3	N-Nitrosodi-n-butylamine	0.1
55-18-5	N-Nitrosodiethylamine	0.1
62-75-9	N-Nitrosodimethylamine	0.1
86-30-6	N-Nitrosodiphenylamine	1.0
621-64-7	N-Nitrosodi-n-propylamine	0.1
4549-40-0	N-Nitrosomethylvinylamine	0.1
59-89-2	N-Nitrosomorpholine	0.1
759-73-9	N-Nitroso-N-ethylurea	0.1
684-93-5	N-Nitroso-N-methylurea	0.1
16543-55-8	N-Nitrosornicotine	0.1
100-75-4	N-Nitrosopiperidine	0.1
2234-13-1	Octachloronaphthalene	1.0
20816-12-0	Osmium tetroxide	1.0
56-38-2	Parathion [Phosphorothioic acid, o, o-diethyl-o-(4-nitrophenyl) ester]	1.0
87-86-5	Pentachlorophenol (PCP)	1.0
79-21-0	Peracetic acid	1.0
108-95-2	Phenol	1.0
106-50-3	p-Phenylenediamine	1.0
90-43-7	2-Phenylphenol	1.0
75-44-5	Phosgene	1.0
7664-38-2	Phosphoric acid	1.0
7723-14-0	Phosphorus (yellow or white)	1.0
85-44-9	Phthalic anhydride	1.0
88-89-1	Picric acid	1.0
1336-36-3	Polychlorinated biphenyls (PCBs)	0.1

**Appendix 4-1 (continued)**

<b>CAS Number</b>	<b>Chemical Name</b>	<b>De Minimis Concentration (Percent)</b>
1120-71-4	Propane sultone	0.1
57-57-8	beta-Propiolactone	0.1
123-38-6	Propionaldehyde	1.0
114-26-1	Propoxur [Phenol, 2-(1-methylethoxy)-, methylcarbamate]	1.0
115-07-1	Propylene (Propene)	1.0
75-55-8	Propyleneimine	0.1
75-56-9	Propylene oxide	0.1
110-86-1	Pyridine	1.0
91-22-5	Quinoline	1.0
106-51-4	Quinone	1.0
82-68-8	Quintozone (Pentachloronitrobenzene)	1.0
81-07-2	Saccharin (manufacturing, no supplier notification [1,2-Benzisothiazol-3 (2H) -one,1,2-dioxide])	0.1
94-59-7	Safrole	0.1
7782-49-2	Selenium	1.0
7440-22-4	Silver	1.0
100-42-5	Styrene	0.1
96-09-3	Styrene oxide	0.1
7664-93-9	Sulfuric acid	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.1
127-18-4	Tetrachloroethylene (Perchloroethylene)	0.1
961-11-5	Tetrachlorvinphos [Phosphoric acid, 2-chloro-1-(2,3,5-trichlorophenyl) ethenyl dimethyl ester]	1.0
7440-28-0	Thallium	1.0
62-55-5	Thioacetamide	0.1
139-65-1	4,4' -Thiodianiline	0.1
62-56-6	Thiourea	0.1
1314-20-1	Thorium dioxide	1.0
7550-45-0	Titanium tetrachloride	1.0
108-88-3	Toluene	1.0
584-84-9	Toluene-2,4-diisocyanate	0.1
91-08-7	Toluene-2,6-diisocyanate	0.1
26471-62-5	Toluenediisocyanate (mixed isomers)	0.1
95-53-4	o-Toluidine	0.1
636-21-5	o-Toluidine hydrochloride	0.1
8001-35-2	Toxaphene	0.1
68-76-8	Triaziquone [2,5-cyclohexadiene-1,4-dione, 2,3,5-tris(1-aziridinyl)-]	0.1
52-68-6	Trichlorfon (Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-,dimethyl ester]	1.0

Appendix 4-1 (continued)

CAS Number	Chemical Name	De Minimis Concentration (Percent)
120-82-1	1,2,4-Trichlorobenzene	1.0
71-55-6	1,1,1-Trichloroethane (Methyl chloroform)	1.0
79-00-5	1,1,2-Trichloroethane	1.0
79-01-6	Trichloroethylene	1.0
75-69-4	Trichlorofluoromethane (CFC-11)	1.0
95-95-4	2,4,5-Trichlorophenol	1.0
88-06-2	2,4,6-Trichlorophenol	0.1
1582-09-8	Trifluralin (Benzeneamine, 2,6- dinitro-N,N-dipropyl-4-(trifluoromethyl)-]	1.0
95-63-6	1,2,4-Trimehylbenzene	1.0
126-72-7	Tris(2,3-dibromopropyl)_phosphate	0.1
51-79-6	Urethane (Ethyl carbamate)	0.1
7440-62-2	Vanadium (fume or dust)	1.0
108-05-4	Vinyl acetate	1.0
593-60-2	Vinyl bromide	0.1
75-01-4	Vinyl chloride	0.1
75-35-4	Vinylidene chloride	1.0
1330-20-7	Xylene (mixed isomers)	1.0
108-38-3	m-Xylene	1.0
95-47-6	o-Xylene	1.0
106-42-3	p-Xylene	1.0
87-62-7	2,6-Xylidine	1.0
7440-66-6	Zinc (fume or dust)	1.0
12122-67-7	Zineb [Carbamodithioic acid, 1,2- ethanediylbis-, zinc complex]	1.0



## Appendix 4-2

### List of Chemical Categories

(OAR 340-135-Appendix 1(1)(b))

The chemical categories on this table are subject to the toxics use and hazardous waste reduction requirements of OAR 340-135-000 through 340-135-110 and ORS 465.003 through 465.037.

The metal compounds listed below, unless otherwise specified, are defined as including any unique chemical substance that contains the named metal (i.e., antimony, nickel, etc.) as part of that chemical's structure.

Toxic chemical categories are subject to the 1 percent de minimis concentration, unless the substance involved meets the definition of a Federal Occupational Safety and Health Act carcinogen, in which case the 0.1 percent de minimis concentration applies.

- Antimony Compounds
- Arsenic Compounds
- Barium Compounds
- Beryllium Compounds
- Cadmium Compounds
- Chlorophenols
- Chromium Compounds
- Cobalt Compounds
- Copper Compounds
- Cyanide Compounds -  $X^+ CN^-$  where  $X = H^+$  or any other group where a formal dissociation may occur. For example  $KCN$  or  $Ca(CN)_2$
- Glycol Ethers - includes mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol. Polymers are excluded from the glycol ether category
- Lead Compounds
- Manganese Compounds
- Mercury Compounds
- Nickel Compounds
- Polybrominated Biphenyls (PBB)
- Selenium Compounds
- Silver Compounds
- Thallium Compounds
- Zinc Compounds

The following three substances were deleted from the Copper Compounds Category and are not reportable:

- C.I. Pigment Blue 15
- C.I. Pigment Green 7
- C.I. Pigment Green 36.



## Appendix 4-3

### Hazardous Wastes (OAR 340-135-Appendix 1(2)(a))

The items on this list must meet the toxics use and hazardous waste management requirements of OAR 340-135-000 through 340-135-110 and ORS 465.003 and 465.037.

Hazardous wastes include any characteristic hazardous waste meeting the Federal and state criteria.

The characteristic of hazardous waste includes the following:

- ignitability
- reactivity
- corrosivity
- toxicity.

#### CHARACTERISTIC HAZARDOUS WASTE

Hazardous Waste No.	CAS No.	Substance	Regulatory level: (ppm or mg/L)
D001	----	Ignitable waste	----
D002	----	Corrosive waste	----
D003	----	Reactive waste	----
D004	7440-38-2	Arsenic	5.0
D005	7440-39-3	Barium	100.0
D006	7440-43-9	Cadmium	1.0
D007	7440-47-3	Chromium	5.0
D008	7439-92-1	Lead	5.0
D009	7439-97-6	Mercury	0.2
D010	7782-49-2	Selenium	1.0
D011	7440-22-4	Silver	5.0
D012	72-20-8	Endrin	0.02
D013	58-89-9	Lindane	0.4
D014	72-43-5	Methoxychlor	10.0
D015	8001-35-2	Toxaphene	0.5
D016	94-75-7	2,4-D	10.0
D017	93-72-1	2,4,5-TP Silvex	1.0
D018	71-43-2	Benzene	0.5
D019	56-23-5	Carbon tetrachloride	0.5
D020	57-74-9	Chlordane	0.03
D021	108-90-7	Chlorobenzene	100.0
D022	67-66-3	Chloroform	6.0

Appendix 4-3 (continued)

Hazardous Waste No.	CAS No.	Substance	Regulatory level: (ppm or mg/L)
D023	95-48-7	o-Cresol	*200.0
D024	108-39-4	m-Cresol	*200.0
D025	106-44-5	p-Cresol	*200.0
D026	1319-77-3	Cresol	*200.0
D027	106-46-7	1,4-Dichlorobenzene	7.5
D028	107-06-2	1,2-Dichloroethane	0.5
D029	75-35-4	1,1-Dichloroethylene	0.7
D030	121-14-2	2,4-Dinitrotoluene	**0.13
D031	76-44-8		
	1024-57-3	Heptachlor (and its epoxide)	0.008
D032	118-74-1	Hexachlorobenzene	**0.13
D033	87-68-3	Hexachlorobutadiene	0.5
D034	67-72-1	Hexachloroethane	3.0
D035	78-93-3	Methyl ethyl ketone (MEK)	200.0
D036	98-95-3	Nitrobenzene	2.0
D037	87-86-5	Pentachlorophenol	100.0
D038	110-86-1	Pyridine	**5.0
D039	127-18-4	Tetrachloroethylene	0.7
D040	79-01-6	Trichloroethylene	0.5
D041	95-95-4	2,4,5-Trichlorophenol	400.0
D042	88-06-2	2,4,6-Trichlorophenol	2.0
D043	75-01-4	Vinyl chloride	0.2

\* If o-, m-, and p-Cresol concentrations cannot be differentiated, the total Cresol (D026) concentration is used. The regulatory level of total Cresol is 200 mg/L.

\*\* The quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Resource Conservation and Recovery Act Subtitle C (RCRA-C) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

**SECTION 5**

**RESOURCE CONSERVATION AND RECOVERY ACT,**

**SUBTITLE D (RCRA-D)**

**Oregon Supplement**

# SECTION 5

## RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)

### Oregon Supplement

#### Definitions

These definitions were obtained from the Oregon Administrative Rules (OAR), Sections 340-93-030, 340-111-020, 333-18-050, 860-66-160, and 340-64-010.

- *Access Road* - any road owned or controlled by the disposal site owner which terminates at the disposal site and provides access for users between the disposal site entrance and a public road.
- *Airport* - any area recognized by the Oregon Department of Transportation, Aeronautics Division, for the landing and taking-off of aircraft which is normally open to the public for such use without prior permission.
- *Aquifer* - a geologic formation, group of formations, or portion of a formation capable of yielding usable quantities of groundwater to wells or springs.
- *Asphalt Fraction* - black, tar-like material that is solid at room temperature and is a residual product from refining used oil.
- *Base Flood* - a flood that has a 1 percent or greater chance of recurring in any year or a flood of a magnitude equaled or exceeded once in 100 yr on the average of a significantly long period.
- *Biological Waste* - blood and blood products, excretions, exudates, secretions, suctionings, and other body fluids that cannot be directly discarded into a municipal sewer system, and waste materials saturated with blood or body fluids (does not include diapers soiled with urine or feces). In addition, biological waste does not include articles contaminated with fully absorbed or dried blood, such as gauze, paper towels, and sanitary napkins.
- *Clean Fill* - material consisting of soil, rock, concrete, brick, building block, tile, or asphalt paving, that does not contain contaminants which could adversely impact the waters of the state or public health. This term does not include putrescible wastes, construction and demolition wastes, and industrial solid wastes.
- *Cleanup Materials Contaminated by Hazardous Substances* - contaminated materials from the cleanup of releases of hazardous substances into the environment that are not hazardous wastes.
- *Closure Permit* - a document issued by the Department bearing the signature of the Director or his authorized representative which by its conditions authorizes the permittee to complete active operations and requires the permittee to properly close a land disposal site and maintain the site after closure for a period of time specified by the Department.

- *Commercial Solid Waste* - solid waste generated by stores, offices (including manufacturing and industry offices), restaurants, warehouses, schools, colleges, universities, hospitals, and other non-manufacturing entities, but does not include solid waste from manufacturing activities. Solid waste from business, manufacturing, or processing activities in residential dwellings is also not included.
- *Composting* - the process of controlled biological decomposition of organic solid waste. It does not include composting for the purposes of soil remediation.
- *Composting Facility* - a facility which receives mixed solid waste or source separated materials and uses a controlled biological decomposition process to produce a useable product.
- *Construction and Demolition Waste* - solid waste resulting from the construction, repair, or demolition of buildings, roads, and other structures, and debris from the clearing of land, but does not include clean fill when separated from other construction and demolition wastes and used as fill materials or land disposed. This term does not include industrial solid waste and municipal solid waste generated in residential or commercial activities associated with construction and demolition activities.
- *Construction and Demolition Landfill* - a landfill receiving only construction and demolition waste.
- *Cover Material* - soil or other suitable material approved by the Department that is placed over the top and side slopes of solid wastes in a landfill.
- *Cultures and Stocks* - includes etiologic agents and associated biologicals; including specimen cultures and dishes and devices used to transfer, inoculate, and mix cultures; wastes from production of biologicals; and serums and discarded live and attenuated vaccines. Culture does not include throat and urine cultures.
- *Department* - the Department of Environmental Quality.
- *Digested Sewage Sludge* - the concentrated sewage sludge that has decomposed under controlled conditions of pH, temperature, and mixing in a digester tank.
- *Director* - the Director of the Department of Environmental Quality.
- *Disposal Site* - land and facilities used for the disposal, handling, treatment or transfer of, or resource recovery from solid wastes, including but not limited to: dumps, landfills, sludge lagoons, sludge treatment facilities, disposal sites for septic tank pumping or cesspool cleaning service, land application units, transfer stations, resource recovery facilities, incinerators for solid waste delivered by the public or by a solid waste collection service, composting plants and land and facilities previously used for solid waste disposal at a land disposal site; but the term does not include a landfill site that is used by the owner or person in control of the premises to dispose of soil, rock, concrete or other similar non-decomposable material, unless the site is used by the public either directly or through a solid waste collection service.
- *Division* - the Health Division of the Department of Human Resources.
- *Domestic Solid Waste* - includes but is not limited to, residential (including single and multiple residences), commercial, and institutional wastes. The term does not include sewage sludge or septic tank and cesspool pumpings; building demolition or construction wastes and land clearing debris, if delivered to a disposal site that is limited to those purposes and does not receive other domestic or industrial solid wastes; industrial waste going to an industrial waste facility; or waste received at an ash monofill from an energy recovery facility.

- *Endangered or Threatened Species* - any species listed as such in accordance with Section 4 of the Federal Endangered Species Act and any other species so listed by the Oregon Department of Fish and Wildlife.
- *Energy Recovery* - recovery in which all or a part of the solid waste materials are processed to use the heat content, or other forms of energy, of or from the material.
- *Floodplain* - the lowland and relatively flat areas (adjoining inland and coastal waters) which are inundated by the base flood.
- *Generator* - the person who, by virtue of ownership, management, or control, is responsible for causing or allowing the creation of infectious waste.
- *Gravel Pit* - an excavation in an alluvial area from which sand or gravel has been or is being mined.
- *Groundwater* - water that occurs beneath the land surface in the zone(s) of saturation.
- *Hazardous Waste* - discarded, useless, or unwanted materials or residues and other wastes which are defined as hazardous waste by the state.
- *Heat-treated* - a process of drying or treating sewage sludge where there is an exposure of all portions of the sludge to high temperatures for a sufficient time to kill all pathogenic organisms.
- *Incineration* - the reduction in volume and weight of waste by combustion.
- *Incinerator* - any device used for the reduction of combustible solid wastes by burning under conditions of controlled air flow and temperature.
- *Industrial Solid Waste* - solid waste generated by manufacturing or industrial processes that is not a hazardous waste. Such waste may include, but is not limited to, waste resulting from the following processes:
  1. electric power generation
  2. fertilizer/agricultural chemicals
  3. food and related products/by-products
  4. inorganic chemicals
  5. iron and steel manufacturing
  6. leather and leather products
  7. nonferrous metals manufacturing/foundries
  8. organic chemicals
  9. plastics and resins manufacturing
  10. pulp and paper industry
  11. rubber and miscellaneous plastic products
  12. stone, glass, clay, and concrete products
  13. textile manufacturing
  14. transportation equipment
  15. water treatment
  16. timber products manufacturing.

(NOTE: This term does not include construction/demolition waste; waste from office buildings or lunch rooms in a manufacturing or industrial facility if not mixed with wastes from the manufacturing or industrial process; or packaging material for products delivered to the generator.)

- *Infectious Waste* - biological waste, cultures and stocks, pathological waste, and sharps.
- *Land Application Unit* - a disposal site where sludges or other solid wastes are applied onto or incorporated into the soil surface for agricultural purposes or for treatment and disposal.
- *Land Disposal Site* - a disposal site in which the method of disposing of solid waste is by landfill, dump, pit, pond, lagoon, or land application.
- *Landfill* - a facility for the disposal of solid waste involving the placement of solid waste on or beneath the land surface.
- *Leachate* - liquid that has come into direct contact with solid waste and contains dissolved, miscible, and/or suspended contaminants as a result of such contact.
- *Material Recovery* - any process of obtaining from solid waste, by presegregation or otherwise, materials which still have useful physical or chemical properties after serving a specific purpose and can, therefore, be reused or recycled for the same or other purpose.
- *Medical Waste* - solid waste that is generated as a result of patient diagnosis, treatment, or immunization of human beings or animals.
- *Monofill* - a landfill or landfill cell into which only one type of waste may be placed.
- *Municipal Solid Waste Landfill* - a discrete area of land or an excavation that receives domestic solid waste, and that is not a land application unit, surface impoundment, infection well, or waste pile. It may also receive other types of wastes such as nonhazardous sludge, hazardous waste from conditionally exempt small quantity generators, construction and demolition waste, and industrial solid waste.
- *Noninfectious* - a state in which a disease-causing agent is not capable of causing an infection to occur.
- *Pathological Waste* - biopsy materials and all human tissues, anatomical parts that emanate from surgery, obstetrical procedures, autopsy and laboratory procedures, and animal carcasses exposed to pathogens in research and the bedding and other waste from such animals. "Pathological waste" does not include teeth or formaldehyde or other preservative agents.
- *Permit* - a document issued by the Department, bearing the signature of the Director or his authorized representative which by its conditions may authorize the permittee to construct, install, modify, or operate a disposal site in accordance with specified limitations.
- *Person* - the state, a public or private corporation, local government unit, public agency, individual, partnership, association, firm, trust, estate, or any other legal entity.
- *Processing of Wastes* - any technology designed to change the physical form or chemical content of solid waste including, but not limited to, baling, composting, classifying, hydropulping, incinerating, and shredding.
- *Public Waters or Waters of the State* - include lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State Of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

- *Putrescible Waste* - solid waste containing organic material that can be rapidly decomposed by microorganisms, which may give rise to foul-smelling, offensive products during such decomposition, or which is capable of attracting or providing food for birds and potential disease vectors such as rodents and flies.
- *Recycling* - any process by which solid waste materials are transformed into new products in such a manner that the original products may lose their identity.
- *Resource Recovery* - the process of obtaining useful material or energy from solid waste including the following:
  1. energy recovery
  2. material recovery
  3. recycling
  4. reuse.
- *Reuse* - the return of a commodity into the economic stream for use in the same kind of application as before without change in its identity.
- *Rick* - to horizontally stack tires securely by overlapping so that the center of a tire fits over the edge of the tire below it.
- *Salvage* - the controlled removal of reusable, recyclable, or otherwise recoverable materials from solid wastes at a solid waste disposal site.
- *Sanitary Landfill* - a facility for the disposal of solid waste which complies with these rules.
- *Sensitive Aquifer* - any unconfined or semiconfined aquifer that is hydraulically connected to a water table aquifer, and where flow could occur between the aquifers due to either natural gradients or induced gradients resulting from pumpage.
- *Septage* - the pumpings from septic tanks, cesspools, holding tanks, chemical toilets, and other sewage sludges not derived at sewage treatment plants.
- *Sharps* - needles, IV tubing with needles attached, scalpel blades, lancets, glass tubes that could be broken during handling, and syringes that have been removed from their original sterile containers.
- *Sludge* - any solid or semisolid waste and associated supernatant generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, or any other such waste having similar characteristics and effects.
- *Sole Source Aquifer* - the only available aquifer, in any given geographic area, containing potable groundwater with sufficient yields to supply domestic or municipal water wells.
- *Solid Waste* - all putrescible and nonputrescible wastes, including, but not limited to, garbage, rubbish, refuse, ashes, waste paper, and cardboard; sewage sludge, septic tank and cesspool pumpings, or other sludge; commercial, industrial, demolition and construction wastes; discarded or abandoned vehicles or parts thereof; discarded home and industrial appliances; manure; vegetable or animal solid and semi-solid wastes, dead animals and other wastes; but the term does not include hazardous wastes and materials used for fertilizer or for other productive purposes or which are salvageable as materials which are used on land in agricultural operations, the growing or harvesting of crops, and the raising of fowl or animals.

- *Solid Waste Boundary* - the outermost perimeter (on the horizontal plane) of the solid waste at a land-fill as it would exist at completion of the disposal activity.
- *Source Separate* - the person who last uses recyclable materials separates the recyclable material from solid waste.
- *Sterilization* - for purposes of these rules, any process which changes infectious waste so that disease-causing agents contained within it are rendered noninfectious at the time the process is completed.
- *Storage* - the temporary containment of infectious waste in a manner that does not constitute treatment or disposal of such waste.
- *Tire* - a continuous solid or pneumatic rubber covering encircling the wheel of a vehicle in which a person or property is transported, or by which they may be drawn, on a highway. Tire does not include tires from vehicles not driven on highways, including bulldozers, mobile cranes, road graders, loaders, rotary snow plows, road rollers, and road sanders.
- *Tire Retreader* - a person actively engaged in the business of retreading waste tires by scarifying the surface to remove the old surface tread and attaching a new tread to make a usable tire for sale to the public.
- *Transfer Station* - a fixed or mobile facility, normally used as an adjunct of a solid waste collection route and disposal site, including, but not limited to, a large hopper, railroad gondola, or barge.
- *Transportation* - the movement of infectious waste from the point of generation over a public highway to any intermediate point, to the point of final treatment, and to the point of final disposal.
- *Treatment or Treatment Facility* - any method, technique, or process designed to change the physical, chemical, or biological character or composition of any solid waste. It includes but is not limited to soil remediation facilities. It does not include composting, material recovery, or a material recovery facility.
- *Underground Drinking Water Source* - an aquifer supplying or likely to supply drinking water for human consumption.
- *Used Oil* - a petroleum-based oil that through use, storage, or handling has become unsuitable for its original purpose due to the presence of impurities or loss of original properties.
- *Vector* - any insect, rodent, or other animal capable of transmitting, directly or indirectly, infectious diseases from one person to another.
- *Waste* - useless or discarded materials.
- *Waste Tire* - a tire that is no longer suitable for its original intended purpose because of wear, damage, or defect, and is fit only for remanufacture into something else or some other use which differs substantially from its original use.
- *Water Table Aquifer* - an unconfined aquifer in which the water table forms the upper boundary of the aquifer. The water table is typically below the upper boundary of the geologic strata containing the water, the pressure head in the aquifer is zero, and the elevation head equals the total head.



- *Zone of Saturation* - a three dimensional section of the soil or rock in which all open spaces are filled with groundwater. The thickness and extent of a saturated zone may vary seasonally or periodically in response to changes in the rate or amount of groundwater recharge, discharge, or withdrawal.



**RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
All Installations	5-1
Municipal Solid Waste Landfills	5-2 through 5-25
Solid Waste Land Disposal Sites Other Than Municipal Solid Waste Landfills	5-26 through 5-48
Incineration	5-49 through 5-51
Composting Plants	5-52 and 5-53
Sludge and Land Application Disposal Sites	5-54 through 5-57
Transfer Stations and Material Recovery Facilities	5-58 and 5-59
Solid Waste Treatment Facilities	5-60 and 5-61
Prohibited Disposal	5-62 and 5-63
Place for Collecting Recyclable Material	5-64
Cleanup Materials Contaminated With Hazardous Substances	5-65
Wastes Requiring Special Management	5-66
Storage and Collection	5-67 and 5-68
Transportation	5-69
Infectious Wastes	5-70 through 5-78
Tires	5-79 through 5-91
Used Oil	5-92



<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>ALL INSTALLATIONS</b>  <b>5-1.</b> Installations must obtain a permit prior to operating, substantially altering, or closing a disposal site (Oregon Department of Environmental Quality Administrative Rules: Solid Waste Management, Chapter 340, Division 93, Section 050(1) and (2)).	<p>Determine if the installation is operating, has substantially altered, or is closing a disposal site.</p> <p>Determine if the installation meets any of the following exemptions from the permit requirement:</p> <ul style="list-style-type: none"> <li>- disposal sites, facilities, or disposal operations operated under the conditions of a water quality permit</li> <li>- a landfill site used exclusively for the disposal of clean fill, unless the materials have been contaminated so that the Department determines that their nature, amount, or location may create an adverse impact on groundwater, surface water, or the public health or safety</li> <li>- composting operations used only by the owner or person in control of a dwelling unit to dispose of food scraps, garden wastes, weeds, lawn cuttings, leaves, and prunings generated at that residence and operated in a manner approved by the Department</li> <li>- facilities that receive only source separated materials for purposes of material recovery or for composting, except when the Department determines that the nature, amount, or location of the materials is such that they constitute a potential threat of adverse impact on the waters of the state or public health</li> <li>- solid waste collection vehicles, operated by commercial solid waste collection companies or government agencies, which serve as mobile and roving transfer stations that are not available for direct use by the general public and do not stay in one location for a period to exceed 72 h.</li> </ul> <p>Verify that the installation has obtained a permit and operates under the conditions of the permit.</p>
<b>MUNICIPAL SOLID WASTE LANDFILLS</b>  <b>5-2.</b> Municipal solid waste landfills subject to 40 CFR 258 must meet all requirements of that (Section 340-94-010).  <b>5-3.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific location requirements (Section 340-94-030).	<p>(NOTE: Municipal solid waste landfills that received waste after 9 October 1991 and continue to receive waste after 9 October 1993 are required to comply with 40 CFR 258.)</p> <p>Verify that municipal solid waste landfills subject to 40 CFR 258 meet all requirements of that.</p> <p>Determine if the installation operates a municipal solid waste landfill not subject to 40 CFR 258.</p> <p>Verify that a landfill located in a floodplain does not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste that would pose a hazard to human life, wildlife, or land or water resources.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-3. (continued)</b>	<p>Verify that in addition to the requirements of 40 CFR 258 Subpart B, the landfill does not cause or contribute to the actual or attempted harassing, harming, pursuing, wounding, killing, trapping, capturing, or collecting of any endangered or threatened species of plants, fish, or wildlife; or direct or indirect alteration of critical habitat which appreciably diminishes the likelihood of the survival and recovery of threatened or endangered species using that habitat.</p> <p>Verify that in addition to the requirements of 40 CFR 258 Subpart B, municipal solid waste landfills are not established or expanded in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a designated wellhead protection area, where the Department has determined that groundwater must be protected from pollution because it has existing or potential beneficial uses and that existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.</p>
<b>5-4.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific open burning requirements (Section 340-94-040(2)).	<p>Verify that open burning is not allowed at the landfill, except with specific authorization by the Department.</p>
<b>5-5.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning surface water (Section 340-94-040(3)).	<p>Verify that there is no discharge of pollutants from a landfill into public waters, including wetlands, that violates any applicable state or Federal water quality rules or regulations.</p> <p>Verify that surface runoff and leachate seeps are controlled to minimize discharges of pollutants into public waters.</p>
<b>5-6.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning surface drainage control (Section 340-94-040(4)).	<p>Verify that the landfill is maintained so that drainage will be diverted around or away from active and completed operational areas.</p> <p>Verify that the surface contours of the landfill are maintained so that ponding of surface water is minimized.</p>
<b>5-7.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning gas control (Section 340-94-040(5)).	<p>Verify that the landfill has provided monitoring wells to determine the effects of the landfill on the concentration of methane gas in the soil, if required by the Department.</p> <p>Verify that in addition to the requirements of 40 CFR 258.23, if the Department determines that monitoring wells are required at the landfill, ensure that the wells are provided and maintained at the locations specified by the Department and that a copy of the geologic log and record of well construction is submitted to the Department within 30 days of completion.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-7. (continued)</b>	<p>Verify that in addition to the requirements of 40 CFR 258.23, the landfill collects and analyzes samples of gas required by the Department.</p> <p>Verify that in addition to the requirements of 40 CFR 258.23, the landfill periodically splits samples with the Department for quality control if required by the Department.</p>
<b>5-8.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning cover material (Section 340-94-040(7) and (8)).	<p>Verify that an adequate quantity of approved cover material is maintained onsite.</p> <p>Verify that a compacted layer of at least 6 in. of approved cover material is placed over the compacted wastes in the landfill at intervals specified in the permit.</p>
<b>5-9.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific access and screening requirements (Section 340-94-040(9), (11)(e), and (f)).	<p>Verify that roads from the landfill property line to the active operational area and roads within the operational area are constructed and maintained to minimize traffic hazards, dust, and mud and to provide reasonable all-weather access for vehicles using the site.</p> <p>Verify that the landfill has a perimeter barrier or topographic constraints adequate to restrict unauthorized entry.</p> <p>Verify that the active landfill area is screened from public view by trees, shrubbery, fence, stockpiled cover material, earthen berm, or other appropriate means.</p>
<b>5-10.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning litter, vector, and bird control (Section 340-94-040(10) and (11)(l)).	<p>Verify that measures are taken such as compaction, the periodic application of cover material, or the use of portable fencing or other devices to minimize the blowing of litter from the active working area of the landfill.</p> <p>Verify that windblown materials from the disposal site and adjacent property are collected and properly disposed of.</p> <p>Verify that effective means are taken at the landfill to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors and to minimize bird attraction.</p> <p>Verify that landfill operations do not increase the likelihood of bird/aircraft collisions at landfills located within 10,000 ft (3048 m) of any airport runway used by turbojet aircraft or within 5000 ft (1524 m) of any airport used by only piston-type aircraft.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-11.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning permitted wastes (Section 340-94-040(11)(a)).	<p>Verify that in addition to the requirements of 40 CFR 258 Subpart C, municipal solid waste landfills accept only the waste types listed in the solid waste permit or the approved operations plan, or wastes previously approved by the Department in writing.</p>
<b>5-12.</b> Municipal solid waste landfills not subject to 40 CFR 258 must maintain a detailed operations plan (Section 340-94-040(11)(b)).	<p>Verify that in addition to the requirements of 40 CFR 258 Subpart C, municipal solid waste landfills maintain a detailed operations plan describing the proposed method of operation and progressive development of trenches and/or landfill lifts or cells.</p>
<b>5-13.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific requirements concerning leachate (Section 340-94-040(11)(c)).	<p>Verify that in addition to the requirements of 40 CFR 258 Subpart C, leachate is minimized and where required by the Department, collected and treated, or otherwise controlled.</p>
<b>5-14.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific fire protection requirements in addition to the requirements in 40 CFR 258 Subpart C (Section 340-94-040(11)(g)).	<p>Verify that arrangements are made with the local fire control agency to immediately acquire their services when needed.</p> <p>Verify that adequate onsite fire protection is provided.</p> <p>Verify that in the case of accidental fires at the site, fire-fighting methods are initiated and continue until all smoldering, smoking, and burning ceases.</p> <p>Verify that there is no dumping of combustible materials within the immediate vicinity of any smoldering, smoking, or burning conditions at the landfill.</p> <p>Verify that dumping activities are not allowed to interfere with fire-fighting efforts.</p>
<b>5-15.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet sign requirements (Section 340-94-040(11)(h)).	<p>Verify that in addition to the requirements in 40 CFR 258 Subpart C, each landfill open to the public has a clearly visible and legible sign posted at the entrance to the disposal site that specifies the following information:</p> <ul style="list-style-type: none"> <li>- the name of the facility</li> <li>- the hours and days the site is open to the public</li> <li>- an emergency phone number</li> <li>- listing of the general types of materials which either will or will not be accepted.</li> </ul>



**COMPLIANCE CATEGORY:**  
**Resource Conservation and Recovery Act - Subtitle D (RCRA-D)**  
**Oregon Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-16.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet truck washing requirements (Section 340-94-040(11)(i)).</p>	<p>Verify that in addition to the requirements in 40 CFR 258 Subpart C, any truck washing areas at the landfill are hard surfaced and that any onsite disposal of washwaters is approved by the Department.</p>
<p><b>5-17.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet sewage disposal requirements (Section 340-94-040(11)(j)).</p>	<p>Verify that in addition to the requirements in 40 CFR 258 Subpart C, any onsite disposal of sewage is approved by the Department.</p>
<p><b>5-18.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet salvaging requirements (Section 340-94-040(11)(k)).</p>	<p>Verify that in addition to the requirements in 40 CFR 258 Subpart C, any recovery of materials such as metal, paper, and glass from the landfill is conducted in a planned and controlled manner approved by the Department.</p>
<p><b>5-19.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet weighing requirements (Section 340-94-040(12)).</p>	<p>Verify that the landfill has provided scales and weighs incoming loads of solid waste if specifically required by the Department.</p>
<p><b>5-20.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet recordkeeping requirements (Section 340-94-040(13)).</p>	<p>Verify that landfills maintain any records and reports required by the Department for a minimum of 5 yr.</p>
<p><b>5-21.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific design criteria (Section 340-94-060).</p>	<p>Verify that in addition to the requirements of 40 CFR 258 Subpart D, the landfill maintains detailed plans and specifications for the landfill, unless an exemption has been granted by the Department.</p> <p>Verify that the concentration of methane gas at the landfill does not exceed 25 percent of its lower explosive limit in facility structures (excluding gas control or gas recovery system components) or its lower explosive limit at the property boundary.</p> <p>Verify that malodorous decomposition gases do not become a public nuisance.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-22.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet groundwater monitoring requirements (Section 340-94-080).</p>	<p>Verify that the introduction of any substance from the landfill into an underground drinking water source does not result in a violation of any applicable Federal or state drinking water rules or regulations beyond the solid waste boundary of the landfill or an alternative boundary specified by the Department.</p> <p>Verify that the introduction of any substance from the landfill into an aquifer does not impair the aquifer's recognized beneficial uses beyond the solid waste boundary of the landfill or an alternative boundary specified by the Department.</p> <p>Verify that in addition to the requirements in 40 CFR 258 Subpart E, if monitoring is required, monitoring wells are placed at Department-approved locations and that a copy of the geologic log and record of well construction is submitted to the Department.</p> <p>Verify that in addition to the requirements in 40 CFR 258 Subpart E, if required by the Department, the landfill collects and analyzes samples of surface water and/or groundwater.</p> <p>Verify that if required by the Department, the landfill periodically splits samples with the Department for the purpose of quality control.</p>
<p><b>5-23.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet specific closure permit requirements (Section 340-94-100).</p>	<p>Verify that at least 5 yr before the anticipated closure of a land disposal site, the disposal site permit is renewed to cover the period of time remaining for site operation, closure of the site, and all or part of the time that active postclosure site maintenance is required by the Department.</p> <p>Verify that disposal sites which are closed and no longer receive waste after 1 January 1980, continue or renew the disposal site permit after the site is closed for the duration of the period in which the Department continues to actively supervise the site.</p>
<p><b>5-24.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet closure requirements (Section 340-94-110 and 340-94-120).</p>	<p>Verify that the landfill has a closure plan approved by the Department.</p> <p>Verify that unless otherwise approved by the Department, the closure of the landfill is in accordance with the following:</p> <ul style="list-style-type: none"> <li>- all areas containing solid waste not already closed in a manner approved by the Department are covered with at least 3 ft of compacted soil and graded to a minimum 2 percent and maximum 30 percent slope</li> <li>- final cover material is applied to each portion of a municipal solid waste landfill within 60 days after the portion reaches approved maximum fill elevation, except in the event of inclement weather where final cover is applied as soon as practicable</li> <li>- the finished surface of the closed areas consist of approved soil types and a vegetative cover of native grasses is promptly established over the finished surface of the closed site</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-24. (continued)</b>	<ul style="list-style-type: none"> <li>- all surface water is diverted around the area of the disposal site, used for waste disposal, or in some other way prevented from contacting the waste</li> <li>- all systems required by the Department to control or contain discharges to the environment are completed and operational.</li> </ul> <p>Verify that closure of the municipal solid waste landfill is done in accordance with the approved closure plan.</p>
<b>5-25.</b> Municipal solid waste landfills not subject to 40 CFR 258 must meet postclosure requirements (Section 340-94-130).	<p>Verify that upon completion or closure of a landfill, a detailed description of the site, including a plat, is filed with the appropriate county land recording authority.</p> <p>Verify that the following postclosure care requirements are met at the municipal solid waste landfill:</p> <ul style="list-style-type: none"> <li>- the approved final contours and drainage system of the site is maintained</li> <li>- a healthy vegetative cover is established and maintained over the site</li> <li>- leachate and gas collection, removal and treatment systems are operated and maintained</li> <li>- groundwater and surface water monitoring systems are operated and maintained.</li> </ul> <p>Verify that the landfill is in compliance with all conditions of the closure permit.</p> <p>Verify that the postclosure care period continues for 10 yr after the date of the completion of closure of the land disposal site, unless otherwise approved or required by the Department.</p>
<b>SOLID WASTE LAND DISPOSAL SITES OTHER THAN MUNICIPAL SOLID WASTE LANDFILLS</b>	
<b>5-26.</b> Nonmunicipal land disposal sites must meet specific location requirements (Section 340-95-010).	<p>Verify that the land disposal site does not cause or contribute to the actual or attempted harassing, harming, pursuing, wounding, killing, trapping, capturing, or collecting of any endangered or threatened species of plants, fish, or wildlife; or direct or indirect alteration of critical habitat.</p> <p>Verify that a land disposal site located in a floodplain does not cause the following conditions:</p> <ul style="list-style-type: none"> <li>- a restriction of the flow of the base flood</li> <li>- a reduction of the temporary water storage capacity of the floodplain</li> <li>- a washout of solid waste that poses a hazard to human life, wildlife, or land or water resources.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-26. (continued)</b>	Verify that the nonmunicipal land disposal site is not established or expanded in a gravel pit excavated into or above a water table aquifer or other sensitive or sole source aquifer, or in a designated wellhead protection area, where the Department has determined that groundwater must be protected from pollution because it has existing or potential beneficial uses and existing natural protection is insufficient or inadequate to minimize the risk of polluting groundwater.
<b>5-27.</b> Nonmunicipal land disposal sites must meet specific requirements concerning permitted wastes (Section 340-95-020(2)).	Verify that nonmunicipal land disposal sites accept only the waste types listed in the solid waste permit or the approved operations plan, or wastes previously approved by the Department in writing.
<b>5-28.</b> Nonmunicipal land disposal sites must maintain a detailed operations plan (Section 340-95-020(3)).	Verify that the nonmunicipal land disposal site maintains a detailed operations plan which describes the proposed method of operation and progressive development of trenches and/or landfill lifts or cells.
<b>5-29.</b> Nonmunicipal land disposal sites must meet specific open burning requirements (Section 340-95-020(4)).	Verify that open burning is not allowed at the land disposal site, except with specific authorization by the Department.
<b>5-30.</b> Nonmunicipal land disposal sites must meet leachate requirements (Section 340-95-020(5)).	Verify that leachate is minimized and where required by the Department, collected and treated or otherwise controlled.
<b>5-31.</b> Nonmunicipal land disposal sites must meet specific requirements concerning surface water (Section 340-95-020(6)).	<p>Verify that there is no discharge of pollutants from a nonmunicipal land disposal site into public waters, including wetlands, which violates any applicable state or Federal water quality rules or regulations.</p> <p>Verify that surface runoff and leachate seeps are controlled to minimize discharges of pollutants into public waters.</p>
<b>5-32.</b> Nonmunicipal land disposal sites must meet specific requirements concerning surface drainage control (Section 340-95-020(7)).	<p>Verify that the nonmunicipal land disposal site is maintained so that drainage is diverted around or away from active and completed operational areas.</p> <p>Verify that the surface contours of the land disposal site are maintained so that ponding of surface water is minimized.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-33.</b> Nonmunicipal land disposal sites must meet specific requirements concerning gas control (Section 340-95-020(9)).</p>	<p>Verify that the land disposal site has provided monitoring wells to determine the effects of the site on the concentration of methane gas in the soil if required by the Department.</p> <p>Verify that if the Department determines that monitoring wells are required at the land disposal site, that the wells are provided and maintained at the locations specified by the Department and that a copy of the geologic log and record of well construction is submitted to the Department within 30 days of completion.</p> <p>Verify that the land disposal site collects and analyzes samples of gas required by the Department.</p> <p>Verify that the land disposal site periodically splits samples with the Department for quality control, if required by the Department.</p>
<p><b>5-34.</b> Nonmunicipal land disposal sites must meet specific requirements concerning cover material (Section 340-95-020(11) and (12)).</p>	<p>Verify that an adequate quantity of approved cover material is maintained onsite.</p> <p>Verify that a compacted layer of at least 6 in. of approved cover material is placed over the compacted wastes at the site at intervals specified in the permit.</p>
<p><b>5-35.</b> Nonmunicipal land disposal sites must meet specific access and screening requirements (Section 340-95-020(13), (14), and (15)).</p>	<p>Verify that roads from the site property line to the active operational area and roads within the operational area are constructed and maintained to minimize traffic hazards, dust, and mud and to provide reasonable all-weather access for vehicles using the site.</p> <p>Verify that the site has a perimeter barrier or topographic constraints adequate to restrict unauthorized entry.</p> <p>Verify that the active site area is screened from public view by trees, shrubbery, fence, stockpiled cover material, earthen berm, or other appropriate means.</p>
<p><b>5-36.</b> Nonmunicipal land disposal sites must meet specific fire protection requirements (Section 340-95-020(16)).</p>	<p>Verify that arrangements are made with the local fire control agency to immediately acquire their services when needed.</p> <p>Verify that adequate onsite fire protection is provided.</p> <p>Verify that in the case of accidental fires at the site, fire-fighting methods are initiated and continue until all smoldering, smoking, and burning ceases.</p> <p>Verify that there is no dumping of combustible materials within the immediate vicinity of any smoldering, smoking, or burning conditions at the site.</p> <p>Verify that dumping activities are not allowed to interfere with fire-fighting efforts.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-37.</b> Nonmunicipal land disposal sites must meet sign requirements (Section 340-95-020(17)).</p>	<p>Verify that each site open to the public has a clearly visible and legible sign posted at the entrance to the disposal site which specifies the following information:</p> <ul style="list-style-type: none"> <li>- the name of the facility</li> <li>- the hours and days the site is open to the public</li> <li>- an emergency phone number</li> <li>- listing of the general types of materials which either will or will not be accepted.</li> </ul>
<p><b>5-38.</b> Non-municipal land disposal sites must meet truck washing requirements (Section 340-95-020(18)).</p>	<p>Verify that any truck washing areas at the site are hard surfaced and that any onsite disposal of wash waters is approved by the Department.</p>
<p><b>5-39.</b> Nonmunicipal land disposal sites must meet sewage disposal requirements (Section 340-95-020(19)).</p>	<p>Verify that any onsite disposal of sewage is approved by the Department.</p>
<p><b>5-40.</b> Nonmunicipal land disposal sites must meet specific salvaging requirements (Section 340-95-020(20)).</p>	<p>Verify that any recovery of materials such as metal, paper, and glass from the site is conducted in a planned and controlled manner approved by the Department.</p>
<p><b>5-41.</b> Nonmunicipal land disposal sites must meet specific requirements concerning litter, vector, and bird control (Section 340-95-020(21) and (22)).</p>	<p>Verify that measures are taken such as compaction, the periodic application of cover material, or the use of portable fencing or other devices to minimize the blowing of litter from the active working area of the land disposal area.</p> <p>Verify that windblown materials from the disposal site and adjacent property are collected and properly disposed of.</p> <p>Verify that effective means are taken to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors and to minimize bird attraction.</p> <p>Verify that site operations do not increase the likelihood of bird/aircraft collisions at land disposal areas located within 10,000 ft (3048 m) of any airport runway used by turbojet aircraft or within 5000 ft (1524 m) of any airport used by only piston-type aircraft.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-42.</b> Nonmunicipal land disposal sites must meet weighing requirements (Section 340-95-020(23)).</p>	<p>Verify that the land disposal site has provided scales and weighs incoming loads of solid waste if specifically required by the Department.</p>
<p><b>5-43.</b> Nonmunicipal land disposal sites must meet recordkeeping requirements (Section 340-95-020(24)).</p>	<p>Verify that land disposal sites maintain any records and reports required by the Department for a minimum of 5 yr.</p>
<p><b>5-44.</b> Nonmunicipal land disposal sites must meet specific design criteria (Section 340-95-030).</p>	<p>Verify that the land disposal site maintains detailed plans and specifications for the site, unless an exemption has been granted by the Department.</p> <p>Verify that the concentration of methane gas at the site does not exceed 25 percent of its lower explosive limit in facility structures (excluding gas control or gas recovery system components) or its lower explosive limit at the property boundary.</p> <p>Verify that malodorous decomposition gases do not become a public nuisance.</p>
<p><b>5-45.</b> Nonmunicipal land disposal sites must meet groundwater monitoring requirements (Section 340-95-040).</p>	<p>Verify that the introduction of any substance from the site into an underground drinking water source does not result in a violation of any applicable Federal or state drinking water rules or regulations beyond the solid waste boundary of the land disposal site or an alternative boundary specified by the Department.</p> <p>Verify that the introduction of any substance from the site into an aquifer does not impair the aquifer's recognized beneficial uses beyond the solid waste boundary of the site or an alternative boundary specified by the Department.</p> <p>Verify that if monitoring is required, monitoring wells are placed at Department-approved locations and that a copy of the geologic log and record of well construction is submitted to the Department.</p> <p>Verify that if required by the Department, the site collects and analyzes samples of surface water and/or groundwater.</p> <p>Verify that if required by the Department, the land disposal site periodically splits samples with the Department for the purpose of quality control.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-46.</b> Nonmunicipal land disposal sites must meet specific closure permit requirements (Section 340-95-050).</p>	<p>Verify that at least 5 yr before the anticipated closure of a land disposal site, the disposal site permit is renewed to cover the period of time remaining for site operation, closure of the site, and all or part of the time that active postclosure site maintenance is required by the Department.</p> <p>Verify that disposal sites which are closed and no longer receive waste after 1 January 1980, continue or renew the disposal site permit after the site is closed for the duration of the period in which the Department continues to actively supervise the site.</p>
<p><b>5-47.</b> Nonmunicipal land disposal sites must meet closure requirements (Section 340-95-060 and 340-95-070).</p>	<p>Verify that the land disposal site has a closure plan approved by the Department.</p> <p>Verify that unless otherwise approved by the Department, the closure of the site is in accordance with the following:</p> <ul style="list-style-type: none"> <li>- all areas containing solid waste not already closed in a manner approved by the Department are covered with at least 3 ft of compacted soil and graded to a minimum 2 percent and maximum 30 percent slope</li> <li>- final cover material is applied to each portion of a nonmunicipal land disposal site within 60 days after the portion reaches approved maximum fill elevation, except in the event of inclement weather where final cover is applied as soon as practicable</li> <li>- the finished surface of the closed areas, consisting of approved soil types and a vegetative cover of native grasses, is promptly established over the finished surface of the closed site</li> <li>- all surface water is diverted around the area of the disposal site used for waste disposal or in some other way prevented from contacting the waste material</li> <li>- all systems required by the Department to control or contain discharges to the environment are completed and operational.</li> </ul> <p>Verify that closure of the nonmunicipal land disposal site is in accordance with the approved closure plan.</p>
<p><b>5-48.</b> Nonmunicipal land disposal sites must meet postclosure requirements (Section 340-95-080).</p>	<p>Verify that upon completion or closure of a land disposal site, a detailed description of the site including a plat, is filed with the appropriate county land recording authority.</p> <p>Verify that the following postclosure care requirements are met at the nonmunicipal land disposal site:</p> <ul style="list-style-type: none"> <li>- the approved final contours and drainage system of the site is maintained</li> <li>- a healthy vegetative cover is established and maintained over the site</li> <li>- leachate and gas collection, and removal and treatment systems are operated and maintained</li> <li>- groundwater and surface water monitoring systems are operated and maintained.</li> </ul>



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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>5-48. (continued)</b></p> <p><b>INCINERATION</b></p> <p><b>5-49.</b> Installations that dispose of wastes by incineration must meet specific design and construction requirements (Section 340-96-010(3)).</p>	<p>Verify that the site meets all conditions of the closure permit.</p> <p>Verify that the postclosure care period continues for 10 yr after the closure completion date of the land disposal site, unless otherwise approved or required by the Department.</p> <p>Determine if the installation disposes of wastes by incineration.</p> <p>Verify that incinerator ash and residues are disposed of in an approved landfill unless handled otherwise in accordance with a plan approved by the Department.</p> <p>Verify that there is no discharge of wastewater to public waters except in accordance with a permit.</p> <p>Verify that all-weather roads are provided from public highways or roads, to and within the disposal site, and are designed and maintained to prevent traffic congestion, traffic hazards, dust, and noise pollution.</p> <p>Verify that the incinerator site is designed so that surface drainage is diverted around or away from the operational area of the site.</p> <p>Verify that fire protection is provided.</p> <p>Verify that access to the incinerator is controlled by means of a complete perimeter fence, gates, and locks.</p> <p>Verify that sanitary waste disposal is accomplished in a manner approved by the Department.</p> <p>Verify that truck washing facilities, if provided, are hard surfaced and that all wash waters are conveyed to a catch basin, drainage system, and disposal system approved by the Department.</p>
<p><b>5-50.</b> All incineration equipment and air pollution control appurtenances must meet all air pollution control rules and regulations and emission standards of the Department or the regional air pollution control authority with jurisdiction (Section 340-96-010(2)).</p>	<p>Verify that all incineration equipment and air pollution control appurtenances meet air pollution control rules and regulations and emission standards of the Department or the regional air pollution control authority with jurisdiction.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-51.</b> Installations that dispose of wastes by incineration must meet specific operational requirements (Section 340-96-010(4)).</p>	<p>Verify that all solid waste deposited at the site is confined to the designated dumping area and that the accumulation of solid wastes and undisposed ash residues is kept to minimum practical quantities.</p> <p>Verify that salvaging does not interfere with optimum disposal operations or create unsightly conditions or vector harborage.</p> <p>Verify that all salvaged material is stored in a building or enclosure until it is removed from the disposal site in accordance with a recycling program authorized in the operational plan approved by the Department.</p> <p>Verify that food products, hazardous materials, containers used for hazardous materials, or furniture and bedding with concealed filling are not salvaged from a disposal site.</p> <p>Verify that blowing debris is controlled so that the entire disposal site is maintained free of litter.</p> <p>Verify that dust, odors, and noise is controlled to prevent air pollution or excessive noise.</p> <p>Verify that rodent and insect control measures are provided and any other conditions which may result in transmission of disease to man and animals are controlled.</p> <p>Verify that the incinerator is operated in a manner which meets the air quality requirements.</p> <p>Verify that all operating records and reports required by the Department are maintained.</p>
<p><b>COMPOSTING PLANTS</b></p> <p><b>5-52.</b> Installations that operate composting plants must meet specific design and construction requirements (Section 340-96-020(3)).</p>	<p>Determine if the installation operates a composting plant.</p> <p>Verify that facilities and procedures are provided for handling, recycling, or disposing of solid waste that is nonbiodegradable by composting.</p> <p>Verify that odors are kept to the lowest practicable levels.</p> <p>Verify that provisions are made to effectively collect, treat, and dispose of leachate or drainage from stored compost and the composting operation.</p> <p>Verify that there is no discharge of wastewater to public waters, except in accordance with a Department permit.</p> <p>Verify that all-weather roads are provided from public highways or roads, to and within the disposal site, and are designed and maintained to prevent traffic congestion, traffic hazards, dust, and noise pollution.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-52. (continued)</b>	<p>Verify that the site is designed so that surface drainage is diverted around or away from the operational area of the site.</p> <p>Verify that fire protection is provided.</p> <p>Verify that access to the composting site is controlled by a complete perimeter fence and lockable gates.</p> <p>Verify that sanitary waste disposal is accomplished in a manner approved by the Department.</p> <p>Verify that truck washing facilities, if provided, are hard surfaced and that all wash waters are conveyed to a catch basin, drainage system, and disposal system approved by the Department.</p>
<b>5-53.</b> Installations that operate composting plants must meet specific operational requirements (Section 340-96-020(4)).	<p>Verify that all compostable waste is subjected to complete processing in accordance with the equipment manufacturer's operating instructions or with the patented process being used.</p> <p>Verify that compost is removed from the composting site as frequently as possible, but not later than 1 yr after treatment is completed.</p> <p>Verify that composted solid waste offered for use by the general public contains no pathogenic organisms, is relatively odor free, and does not endanger public health or safety.</p> <p>Verify that all solid waste deposited at the site is confined to the designated dumping area and that the accumulation of solid wastes and undisposed residues is kept to minimum practical quantities.</p> <p>Verify that salvaging is controlled so it does not interfere with optimum disposal operation and does not create unsightly conditions or vector harborage.</p> <p>Verify that all salvaged material is stored in a building or enclosure until it is removed from the disposal site in accordance with a recycling program approved by the Department.</p>
<b>SLUDGE AND LAND APPLICATION DISPOSAL SITES</b>	<p>(NOTE: Disposal of sewage sludges resulting from a sewage treatment facility that is operating under a current and valid waste discharge permit is exempted from obtaining a solid waste disposal permit, if disposal is covered by the discharge permit.)</p>
<b>5-54.</b> Installations with sludge disposal sites must not use prohibited methods of sludge disposal (Section 340-96-030(3)).	<p>Determine if the installation has a sludge disposal site.</p> <p>Verify that septage and raw sludge is not disposed of by land spreading, unless it is specifically approved by the Department or the state or local health agency with jurisdiction.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-54. (continued)</b>	<p>Verify that except for heat-treated sewage sludges, sewage sludges including septic tank pumpings, raw, nondigested, and digested are not:</p> <ul style="list-style-type: none"> <li>- used as fertilizer on root crops, vegetables, low-growing berries, or fruits that may be eaten raw</li> <li>- applied to land later than 1 yr before planting where vegetables are to be grown</li> <li>- used on grass in public parks or other areas at a time or in such a way that persons could unknowingly come in contact with it</li> <li>- given or sold to the public without their knowledge of its origin.</li> </ul> <p>Verify that sludges are not deposited in landfills except in accordance with operational plans that have been submitted and approved by the Department.</p>
<b>5-55.</b> Sludge lagoons and sludge spreading must meet specific location requirements (Section 340-96-030(4)(a)).	<p>Verify that sludge lagoons are located a minimum of one-quarter mi from the nearest residence other than that of the lagoon operator or attendant.</p> <p>Verify that sludge is not spread on land where natural runoff could carry a residue into public waters.</p> <p>Verify that if nondigested sludge is spread on land within one-quarter mi of a residence, community, or public use area, it is plowed under the ground, buried, or otherwise incorporated into the soil within 5 days after application.</p>
<b>5-56.</b> Sludge disposal areas must meet specific access requirements (Section 340-96-030(4)(b)).	<p>Verify that public access to a lagoon site is controlled by man-proof fencing and gates locked at all times that an attendant is not on duty.</p> <p>Verify that public access to sludge spreading areas is controlled by complete perimeter fencing and lockable gates.</p>
<b>5-57.</b> Sludge disposal areas must meet specific operational requirements (Section 340-96-030(4)(c) through (k)).	<p>Verify that signs are posted at a land application area as required and that signs are posted on all sides of a sludge lagoon stating the contents of the lagoon and warning of potential hazards to health.</p> <p>Verify that a sludge disposal site is located, sloped, or protected so that surface drainage is diverted around or away from the operational area of the site.</p> <p>Verify that sludge lagoons are watertight and do not overflow.</p> <p>Verify that a minimum of 3.0 ft of dike freeboard is maintained above the maximum water level within a sludge lagoon unless some other minimum freeboard is specifically approved by the Department.</p> <p>Verify that sludge lagoons are provided with an emergency spillway adequate to prevent cutting-out of the dike, should the water elevation overtop the dike for any reason.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-57. (continued)</b></p>	<p>Verify that water or sludge is not pumped or otherwise removed from a lagoon, except in accordance with a plan approved in writing by the Department.</p> <p>Verify that if monitoring wells are required by the Department, they are sufficient to detect the movement of groundwater and are easily capable of being pumped to obtain water samples.</p> <p>Verify that truck washing areas, if provided, are hard surfaced and all washwaters are conveyed to a catch basin, drainage system, and disposal system approved by the Department.</p> <p>Verify that any records required by the Department are kept.</p>
<p><b>TRANSFER STATIONS AND MATERIAL RECOVERY FACILITIES</b></p>	
<p><b>5-58.</b> Installations that operate transfer stations must meet specific design and construction requirements (Section 340-96-040(3)).</p>	<p>Determine if the installation operates a transfer station.</p> <p>Verify that there is no discharge of wastewater to public waters except in accordance with a permit.</p> <p>Verify that all-weather roads are provided from public highways or roads, to and within the disposal site, and are designed and maintained to prevent traffic congestion, traffic hazards, dust, and noise pollution.</p> <p>Verify that the site is designed so that surface drainage is diverted around or away from the operational area of the site.</p> <p>Verify that fire protection is provided.</p> <p>Verify that access to the site is controlled by a complete perimeter fence, gates, and locks.</p> <p>Verify that sanitary waste disposal is accomplished in a manner approved by the Department.</p> <p>Verify that truck washing facilities, if provided, are hard surfaced and that all washwaters are conveyed to a catch basin, drainage system, and disposal system approved by the Department.</p>
<p><b>5-59.</b> Installations that operate a transfer station must meet specific operational requirements (Section 340-96-040(4)).</p>	<p>Verify that all solid waste deposited at the site is confined to the designated dumping area and that the accumulation of solid wastes is kept to minimum practical quantities.</p> <p>Verify that salvaging does not interfere with optimum disposal operations or create unsightly conditions or vector harborage.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-59. (continued)</b></p>	<p>Verify that all salvaged material is stored in a building or enclosure until it is removed from the disposal site in accordance with a recycling program authorized in the approved operational plan.</p> <p>Verify that food products, hazardous materials, containers used for hazardous materials, furniture, and bedding with concealed filling are not salvaged from a disposal site.</p> <p>Verify that blowing debris is controlled so the entire disposal site is maintained free of litter.</p> <p>Verify that dust, odors, and noise is controlled to prevent air pollution or excessive noise.</p> <p>Verify that rodent and insect control measures are provided and any other conditions which may result in transmission of disease to man and animals are controlled.</p> <p>Verify that all records and reports required by the Department are maintained.</p>
<p><b>SOLID WASTE TREATMENT FACILITIES</b></p>	
<p><b>5-60.</b> Installations that operate a solid waste treatment facility must meet air pollution requirements (Section 340-96-050(3)).</p>	<p>Determine if the installation operates a solid waste treatment facility.</p> <p>Verify that the facility meets with air pollution control rules and regulations and emission standards of the Department or the regional air pollution control authority with jurisdiction.</p>
<p><b>5-61.</b> Installations that operate bioremediation facilities must meet specific requirements (Section 340-96-050(4)).</p>	<p>Verify that facilities which biologically treat petroleum-contaminated soil meet the location, operating, and design requirements for land disposal sites other than municipal solid waste landfills.</p> <p>Verify that the design criteria includes either a landfill-type liner with a leachate removal system or a vadose zone monitoring system.</p> <p>Verify that any groundwater monitoring required by the Department is conducted.</p> <p>Verify that surface runoff and leachate seeps are controlled to minimize discharges of pollutants into public waters.</p> <p>Verify that the liner is not damaged by facility operations.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-61. (continued)</b></p> <p><b>PROHIBITED DISPOSAL</b></p> <p><b>5-62.</b> Solid waste must only be disposed of at a permitted solid waste disposal site or at a site specifically exempted from the requirement to obtain a solid waste permit (Section 340-93-040(1)).</p> <p><b>5-63.</b> Solid waste disposal sites must not accept prohibited wastes (Section 340-93-040(2) and (3)).</p> <p><b>PLACE FOR COLLECTING RECYCLABLE MATERIAL</b></p> <p><b>5-64.</b> All solid waste facilities must provide a place for collecting source separated recyclable material at the disposal site or at another more convenient location (Section 340-93-160).</p>	<p>Verify that a monitoring plan is provided to demonstrate completion of the biodegradation process.</p> <p>Verify that any records and reports required by the Department are maintained.</p> <p>Verify that solid waste is only disposed of at a permitted solid waste disposal site or at a site specifically exempted from the requirement to obtain a solid waste permit.</p> <p>Verify that a solid waste disposal site does not accept the following wastes:</p> <ul style="list-style-type: none"> <li>- hazardous wastes</li> <li>- hazardous wastes from other states</li> <li>- lead-acid batteries</li> <li>- waste oils, including liquid used oil and used oil purposely mixed with other materials for the purpose of disposal, but not including cleanup materials from incidental or accidental spills where the used oil spilled cannot feasibly be recovered as liquid oil</li> <li>- discarded or abandoned vehicles</li> <li>- discarded large metal-jacketed residential, commercial, or industrial appliances such as refrigerators, washers, stoves, and water heaters</li> <li>- whole tires, unless approved.</li> </ul> <p>(NOTE: Any disposal site that does not receive source separated recyclable material or solid waste containing recyclable material is not required to provide a place for collecting source separated recyclable material.)</p> <p>Verify that the solid waste facility has provided a place for collecting source separated recyclable material, unless exempted.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>CLEANUP MATERIALS CONTAMINATED WITH HAZARDOUS SUBSTANCES</b></p> <p><b>5-65.</b> Solid waste landfills accepting cleanup materials contaminated with hazardous waste must meet specific requirements (Section 340-93-170).</p> <p><b>WASTES REQUIRING SPECIAL MANAGEMENT</b></p> <p><b>5-66.</b> Solid waste landfills must use special handling or management practices for specific wastes (Section 340-93-190).</p>	<p>(NOTE: These regulations apply to cleanup materials contaminated with hazardous substances when such materials are removed from the site of contamination for treatment and/or disposal. Cleanup materials include only those materials that are not hazardous wastes.)</p> <p>Verify that the landfill uses best management practices.</p> <p>Verify that the solid waste landfill is authorized by the Department to receive cleanup materials contaminated by hazardous substances.</p> <p>(NOTE: Best management practices are defined as a landfill meeting the design criteria in 40 CFR 259 Subpart D, or an alternate design approved by the Department.)</p> <p>Verify that residues from agricultural practices are recycled, used for productive purposes, or disposed of in a manner which does not cause vector creation or sustenance, air or water pollution, public health hazards, odors, or nuisance conditions.</p> <p>Verify that construction and demolition landfills or landfills incorporating large quantities of combustible materials are designed and operated to prevent fires and the spread of fires and that equipment is provided of sufficient size and design to densely compact the material to be included in the landfill.</p> <p>Verify that ash from domestic energy recovery facilities and from domestic solid waste incinerator disposal sites are disposed of at an ash mono-fill permitted by the Department.</p> <p>Verify that more than 30 gal of petroleum-bearing wastes such as used oil filters, oil-absorbent materials, tank bottoms, or oil sludges are not placed in any disposal site unless all recoverable liquid oils are removed and special provisions for handling and other special precautions to prevent fires and pollution of surface or groundwaters are taken.</p>



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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>STORAGE AND COLLECTION</b>  <b>5-67.</b> Storage and collection of solid waste must be conducted according to specific regulations (Section 340-93-210(1) through (4)).	<p>Verify that the storage and collection of solid waste is conducted in a manner to prevent the following:</p> <ul style="list-style-type: none"> <li>- vector production and sustenance</li> <li>- conditions of transmission of diseases to man or animals</li> <li>- hazards to service or disposal workers or to the public</li> <li>- air pollution</li> <li>- water pollution or escape of solid wastes or contaminated water to public waters</li> <li>- objectionable odors, dust, unsightliness, aesthetically objectionable conditions, or other nuisance conditions.</li> </ul> <p>Verify that individual containers for manual pickup have a tight-fitting lid or cover, handle holds or bales, and are in good condition.</p> <p>Verify that storage bins and storage vehicles are leak-proof, have tight lids and covers that may be easily opened for intended use, and have suitable fittings to facilitate removal or emptying.</p> <p>Verify that containers, storage bins, or storage vehicles are readily washable or have liners of paper, plastic, or similar materials, or both.</p> <p>Verify that storage houses, rooms, or areas are of rodent-proof construction, readily cleanable, and have proper drainage.</p> <p>Verify that storage rooms or buildings, if not refrigerated, are adequately vented and all openings screened.</p> <p>Verify that unless special service or special equipment is provided by the collector for handling unconfined waste, materials such as rubbish and refuse, brush, leaves, tree cuttings, and other debris for manual pickup and collection, is in securely-tied bundles or boxes, sacks, or other receptacles and that it does not exceed 60 lb in weight.</p> <p>Verify that putrescible solid waste is removed from the premises at regular intervals, not to exceed 7 days.</p> <p>Verify that areas around storage containers are cleaned regularly.</p>
<b>5-68.</b> Specific wastes such as industrial, agriculture, and hazardous wastes must be stored according to specific regulations (Section 340-93-210(5)).	<p>Verify that open storage areas for industrial solid wastes are not closer than 100 ft horizontal distance from the normal highwater mark of any public waters, unless special provision is made which prevents wastes, or drainage from entering public waters.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>5-68. (continued)</b>	<p>Verify that the storage of agricultural wastes does not create vector production or sustenance, conditions for transmission of diseases to man or animals, water or air pollution, and is done in a manner to reduce and minimize objectionable odors, unsightliness, and aesthetically objectionable and other nuisance conditions.</p> <p>Verify that containers for hazardous wastes are marked to designate the content as toxic, explosive, or otherwise as hazardous in a manner designed to give adequate protection to the collector and storage site operator.</p>
<b>TRANSPORTATION</b>	
<b>5-69.</b> Collection and transfer vehicles must meet specific requirements (Section 340-93-220).	<p>Verify that solid waste collection and transfer vehicles and devices are constructed, loaded, and operated to prevent dropping, leaking, sifting, blowing, or other losses of solid waste from the vehicle.</p> <p>Verify that collection and transfer vehicles and devices carrying loads likely to blow or fall have a cover.</p> <p>Verify that collection and transfer vehicles or other devices used in transporting solid waste are cleanable and are cleaned at regular intervals or more often as necessary to prevent odors, insects, rodents, or other nuisance conditions.</p> <p>Verify that wastewater from the process of cleaning containers of nonhazardous waste is disposed of in a manner approved by the Department or the state or local health department with jurisdiction.</p>
<b>INFECTIOUS WASTES</b>	
<b>5-70.</b> Pathological wastes must be treated by incineration in an incinerator that provides complete combustion of waste to carbonized or mineralized ash (Section 333-18-060(1)).	<p>Verify that pathological wastes are treated by incineration in an incinerator which provides complete combustion of waste to carbonized or mineralized ash.</p> <p>(NOTE: If the Department of Environmental Quality determines that incineration is not reasonably available within a watershed, pathological wastes may be disposed of in the same manner provided for cultures and stocks.)</p>
<b>5-71.</b> Cultures, stocks, sharps, and biological wastes must be treated by incineration, sterilization with saturated steam in a pressurized vessel, or by another approved method (Section 333-18-060(2) and (4)).	<p>Verify that cultures, stocks, sharps, and biological wastes are treated by incineration, sterilization with saturated steam in a pressurized vessel, or by another approved method.</p>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-72.</b> Incineration of cultures, stocks, sharps, and biological wastes must be in accordance with specific requirements (Section 333-18-060(2)(a) and (4)(a)).</p>	<p>Verify that if incineration is used to treat cultures, stocks, sharps, and biological wastes that it is done in accordance with all applicable rules established by the Environmental Quality Commission.</p>
<p><b>5-73.</b> Sterilization of cultures, stocks, sharps, and biological wastes with saturated steam in a pressurized vessel must be in accordance with specific requirements (Section 333-18-060(2)(b) and (4)(b)).</p>	<p>Verify that a pressurized vessel dedicated to infectious waste treatment is used.</p> <p>Verify that standard written operating procedures for each steam sterilizer are followed.</p> <p>Verify that recording and/or temperature measurements are monitored to ensure that the manufacturer's recommended temperature is attained for the recommended amount of time to achieve sterilization of the entire load.</p> <p>Verify that temperature measuring devices are checked for calibration at least annually.</p> <p>Verify that heat sensitive tape or other devices designed to indicate attainment of adequate sterilization is provided for each container.</p> <p>Verify that there is at least monthly use of the biological indicator <i>Bacillus stearothermophilus</i>, or equivalent, placed at the center of a load processed under standard operating conditions, to confirm the attainment of adequate sterilization conditions.</p> <p>Verify that records are maintained about the operating procedures, monitoring, and use of a biological indicator for at least 1 yr.</p>
<p><b>5-74.</b> Cultures, stocks, sharps, and biological wastes that are treated by a method other than incineration or sterilization with saturated steam must meet specific requirements (Section 333-18-060(2)(c) and (4)(b)).</p>	<p>Verify that the method has been approved by one of the following:</p> <ul style="list-style-type: none"> <li>- the National Sanitation Foundation or another nationally recognized, independent, not-for-profit, third-party, standard-setting organization, which is independent of any industry affected by the Act, and the Division has received written notification that the method has been approved and the Division and the Environmental Quality Commission have recognized and accepted that method by administrative rule</li> <li>- the Environmental Quality Commission has approved the method and has accepted that method by administrative rule.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-75.</b> Liquid or soluble semi-solid biological wastes may be discharged into a sewage treatment system that provides secondary treatment of waste (Section 333-18-060(3)).</p>	<p>Verify that if liquid or soluble semi-solid biological wastes are discharged into a sewage treatment system, it provides secondary treatment of waste.</p>
<p><b>5-76.</b> The disposal of sharps after approved treatment must be in accordance with specific requirements (Section 333-18-060(5)).</p>	<p>Verify that sharps are in a red, leak-proof, rigid, puncture-resistant container which is taped closed or tightly lidded to prevent loss of contents before being disposed of directly into a permitted land disposal site.</p> <p>Verify that the containers are not compacted or otherwise broken before placement in the landfill.</p> <p>Verify that the containers of sharps are placed in a segregated area of the landfill.</p>
<p><b>5-77.</b> The storage of infectious waste must be in accordance with specific requirements (Section 333-18-070).</p>	<p>Verify that infectious waste is segregated from other wastes by separate containment at the point of generation.</p> <p>Verify that enclosures used for storage of infectious waste are secured to prevent access by unauthorized persons and marked with prominent warning signs.</p> <p>Verify that pathological waste, biological waste, and cultures/stocks are treated or disposed of within 7 days of generation, unless it is refrigerated or frozen.</p> <p>Verify that refrigerated or frozen infectious waste is not stored for more than 30 days before treatment or disposal.</p> <p>(NOTE: Before being treated, sharps contained in a leak proof, rigid, puncture-resistant container that is taped closed or tightly lidded to prevent loss of the contents may be stored indefinitely.)</p> <p>(NOTE: Generators that produce 50 lb or less of infectious waste in any calendar month are exempt from the requirements pertaining to storage times and temperatures.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-78.</b> The transportation of infectious waste must be in accordance with specific requirements (Sections 860-66-161 through 166).</p>	<p>Verify that the infectious waste, except sharps, is contained in containers which are impervious to moisture; leak-resistant; strong enough to prevent ripping, tearing, or bursting under normal conditions of use; and closed to prevent leakage or expulsion during transport.</p> <p>Verify that sharps containers are red, puncture-resistant, and taped closed or tightly lidded.</p> <p>Verify that each container of infectious waste is labeled with the international biohazard symbol and marked with the shipper's and/or transporter's name and address.</p> <p>Verify that all infectious waste being transported is accompanied by a shipping document including at least the county and state of origin of the infectious waste.</p> <p>Verify that each transporter of infectious waste also meets infectious waste storage requirements.</p> <p>Verify that infectious waste is not transported in the compactor compartment on a mobile trash compactor.</p> <p>Verify that all transporters of infectious waste over public highways in Oregon are registered with the Public Utility Commission as an infectious waste transporter.</p>
<p><b>TIRES</b></p>	
<p><b>5-79.</b> Facilities that store more than 100 waste tires or over 200 (yd<sup>3</sup>) of tire-derived products must have a waste tire storage permit (Section 340-64-015).</p>	<p>Determine if the facility meets any of the following exemptions from this rule:</p> <ul style="list-style-type: none"> <li>- a tire retailer who stores not more than 1500 waste tires for each retail business location</li> <li>- a tire retreader who stores not more than 3000 waste tires for each individual retread operation as long as the waste tires are of the type the retreader is actively retreading</li> <li>- a wrecking business that stores not more than 1500 waste tires for each retail business</li> <li>- storage of tire-derived products packaged in closed plastic bags.</li> </ul> <p>Verify that facilities which store more than 100 waste tires, or over 200 yd<sup>3</sup> of tire-derived products, have a waste tire storage permit, unless exempted.</p>
<p><b>5-80.</b> Waste tire storage sites must meet location requirements (Section 340-04-035(3)).</p>	<p>Verify that the waste tire storage site is not located in a wetland, waterway, floodway, 25-yr floodplain, or any area where it may be subjected to submersion in water.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-81.</b> An outdoor waste tire pile must meet specific size limitations (Section 340-64-035(4)(a)).</p>	<p>Verify that the outdoor waste tire pile is no greater than the following maximum dimensions:</p> <ul style="list-style-type: none"> <li>- width: 50 ft</li> <li>- area: 15,000 ft<sup>2</sup></li> <li>- height: 6 ft.</li> </ul>
<p><b>5-82.</b> Outdoor waste tire piles must meet general operating requirements (Section 340-64-035(4)(b), (c), (d), (g), (k), and (l)).</p>	<p>Verify that a 50-ft fire lane is placed around the perimeter of each waste tire pile and that access to the fire lane for emergency vehicles is unobstructed at all times.</p> <p>Verify that waste tire piles are located at least 60 ft from buildings.</p> <p>Verify that waste tires to be stored for 1 mo or longer are ricked, unless this requirement is waived by the Department.</p> <p>Verify that no operations involving the use of open flames or blow torches are conducted within 25 ft of a waste tire pile.</p> <p>Verify that the site is bermed or given other adequate protection if necessary to keep any liquid runoff from potential tire fires from entering waterways.</p> <p>Verify that if pyrolytic oil is released at the waste tire storage site, the contaminated soil is removed in accordance with applicable rules governing the removal, transportation, and disposal of the material.</p>
<p><b>5-83.</b> Outdoor waste tire piles must meet vector control requirements (Section 340-64-035(4)(e)).</p>	<p>Verify that mosquitoes and rodents are controlled if the site is likely to become a public nuisance or health hazard and is close to residential areas.</p>
<p><b>5-84.</b> Outdoor tire piles must meet access, sign, and supervision requirements (Section 340-64-035(4)(f), (h), and (j)).</p>	<p>Verify that a sign is posted at the entrance of the storage site stating operating hours, cost of disposal, and site rules, if the site receives tires from persons other than the site operator.</p> <p>Verify that an approach and access road to the waste tire storage site is maintained passable for any vehicle at all times.</p> <p>Verify that access is controlled through the use of fences or gates.</p> <p>Verify that an attendant is present at all times the waste tire storage site is open for business, if the site receives tires from persons other than the operator of the site.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-85.</b> Outdoor waste tire storage sites with tire fences must meet specific requirements (Section 340-64-035(4)(m)).</p>	<p>Verify that vector control is accomplished by drilling a 2-in. hole into each quadrant of the downside of each tire used in the fence, filling each tire used in the fence with dirt, or by another approved method.</p> <p>Verify that a 20-ft fire lane is maintained along the entire length of the tire fence and that access to the fire lane for emergency vehicles is unobstructed and kept clear of vegetation.</p> <p>Verify that the tire fence is not constructed wider than one tire width.</p>
<p><b>5-86.</b> Piles of tire-derived products must meet size limitations (Section 340-64-035(5)).</p>	<p>Verify that the product pile is no greater than the following maximum dimensions:</p> <ul style="list-style-type: none"> <li>- width: 40 yd</li> <li>- volume: 6400 yd<sup>3</sup></li> <li>- height: 4 yd.</li> </ul>
<p><b>5-87.</b> Tire-derived product storage sites must meet general operating requirements (Section 340-64-035(5)(b) and (c)).</p>	<p>Verify that no more than four piles of product are on a site.</p> <p>Verify that a 50-ft fire lane is placed around the perimeter of each product pile and that access to the fire lane for emergency vehicles is unobstructed at all times.</p> <p>Verify that product piles are located at least 60 ft from buildings.</p> <p>Verify that no operations involving the use of open flames or blow torches are conducted within 25 ft of a product pile.</p> <p>Verify that the site is bermed or given other adequate protection if necessary to keep any liquid runoff from potential tire fires from entering waterways.</p> <p>Verify that if pyrolytic oil is released at the waste tire storage site, the contaminated soil is removed in accordance with applicable rules governing the removal, transportation, and disposal of the material.</p>
<p><b>5-88.</b> Tire-derived product piles must meet vector control requirements (Section 340-64-035(5)(c)).</p>	<p>Verify that mosquitoes and rodents are controlled if the site is likely to become a public nuisance or health hazard and is close to residential areas.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle D (RCRA-D)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>5-89.</b> Tire-derived product storage sites must meet access, sign, and supervision requirements (Section 340-64-035(5)(c)).</p>	<p>Verify that a sign is posted at the entrance of the storage site stating operating hours, cost of disposal, and site rules if the site receives products from persons other than the site operator.</p> <p>Verify that an approach and access road to the storage site is maintained passable for any vehicle at all times.</p> <p>Verify that access is controlled through the use of fences or gates.</p> <p>Verify that an attendant is present at all times the waste tire storage site is open for business, if the site receives products from persons other than the operator of the site.</p>
<p><b>5-90.</b> Waste tires stored indoors must meet specific requirements (Section 340-64-035(7)).</p>	<p>Verify that waste tires stored indoors meet the conditions in <i>The Standard For Storage of Rubber Tires</i>, National Fire Protection Association (NFPA) 231D-1986 edition, adopted by the NFPA, San Diego, California.</p>
<p><b>5-91.</b> Closing a waste tire storage site must meet specific closure procedures (Section 340-64-045).</p>	<p>Verify that public access to the waste tire storage site is closed.</p> <p>Verify that a notice is posted indicating to the public that the site is closed and, if the site has accepted waste tires from the public, indicating the nearest site where waste tires can be deposited.</p> <p>Verify that the Department is notified of the closing and when closure is complete.</p> <p>Verify that all waste tires and tire-derived products are removed to a waste tire storage site, solid waste disposal site authorized to accept waste tires, or other facility approved by the Department.</p>
<p><b>USED OIL</b></p>	
<p><b>5-92.</b> The disposal of used oil must be in accordance with specific requirements (Section 340-111-030(1)).</p>	<p>Verify that used oil is not discharged into sewers, drainage systems, or waters of the state.</p>



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Resource Conservation and Recovery Act Subtitle D (RCRA-D) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

**SECTION 6**

**RESOURCE CONSERVATION AND RECOVERY ACT,**

**SUBTITLE I (RCRA-I)**

**Oregon Supplement**

# **SECTION 6**

## **RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE I (RCRA-I)**

### **Oregon Supplement**

#### **Applicability**

The State of Oregon has adopted by reference the Federal underground storage tank (UST) regulations as amended through 1 July 1991. The Oregon underground storage tank protocols in this section include modifications to the Federal regulations 40 Code of Federal Regulations (CFR) 280 Subparts A through H (Oregon Administrative Rules (OAR) 340-150-002).

The following Federal underground storage regulations, as revised through 1 July 1991, have been adopted:

- 40 CFR 280 Subpart A: Program Scope and Interim Prohibition, with minor changes in language
- 40 CFR 280 Subpart B: UST Systems: Design, Construction, Installation, and Notification, with minor changes in language and amended requirements for spill and overfill prevention equipment
- 40 CFR 280 Subpart C: General Operating Requirements, with minor changes in language
- 40 CFR 280 Subpart D: Release Detection with minor alterations
- 40 CFR 280 Subpart E: Release Reporting, Investigation, and Confirmation
- 40 CFR 280 Subpart F: Release Response and Corrective Action for UST Systems Containing Hazardous Substances, with minor alterations and equivalent requirements
- 40 CFR 280 Subpart G: Out-of-Service UST Systems and Closures, with minor alterations
- 40 CFR 280 Subpart H: Financial Responsibility.

#### **Definitions**

These definitions were obtained from OAR Chapter 340 Division 150 Section 010, Division 122 Section 020, and Section 210.

- *Aboveground Release* - any release to the surface of land or surface of water. This includes, but is not limited to, releases from the aboveground portion of a petroleum UST system and releases associated with overfills and transfer operations as the regulated substance is moved to and from a UST system.
- *Ancillary Equipment* - any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a petroleum UST system.
- *Background Level* - the concentration of hazardous substances, if any, existing in the environment at the site before the occurrence of any past or present release or releases.
- *Beneath the Surface of the Ground* - beneath the ground surface or otherwise covered with earthen materials.
- *CERCLA* - the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended.

- *Cleanup* - the containment, collection, removal, treatment, or disposal of oil or hazardous material; site restoration; and any other investigations, monitoring, surveys, testing, and other information gathering required or conducted by the Department.
- *Compatible* - the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.
- *Commission* - the Environmental Quality Commission.
- *Compliance* - meeting the requirements of the Commission and Department statutes, rules, permits, and orders.
- *Connected Piping* - all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system, through which regulated substances flow.
- *Corrective Action* - remedial action taken to protect the present or future public health, safety, welfare, or the environment from the release of a regulated substance. This includes:
  1. the prevention, elimination, removal, abatement, control, investigation, assessment, evaluation, or monitoring of a hazard or potential hazard or threat, including migration of a regulated substance, or
  2. transportation, storage, treatment, or disposal of a regulated substance or contaminated material from a site.
- *Corrosion Expert* - a professionally educated and experienced person who, possessing a thorough knowledge of the physical sciences and the principles of engineering and mathematics, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.
- *Decommission* - to remove from operation a UST, including temporary or permanent removal from operation, abandonment in place, or removal from the ground.
- *Deferred UST Systems* - any UST that is not exempt under the Federal UST regulations and listed below:
  1. wastewater treatment tank systems
  2. any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954
  3. any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission
  4. airport hydrant fuel distribution systems
  5. UST systems with field-distribution systems.
- *De Minimis* - very small, as in very small amounts or concentrations of regulated substances being stored in UST systems.
- *Department* - the Oregon Department of Environmental Quality.

- *Dielectric Material* - a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils.
- *Director* - the Director of the Oregon Department of Environmental Quality or authorized representative.
- *Discharge* - any emission other than natural seepage of oil, whether intentional or unintentional. This includes, but is not limited to, the following handling of oil: spilling, leaking, pumping, pouring, emitting, emptying, and dumping.
- *Electrical Equipment* - underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.
- *Environment* - waters of the state, any drinking water supply, any land surface and surface strata, sediments, saturated soils, subsurface gas, ambient air, or atmosphere.
- *Excavation Zone* - the area containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the petroleum UST system is placed at the time of installation.
- *Exempt Releases* - includes:
  1. any release which results in exposure to a person solely within a workplace with respect to a claim that a person may assert against the person's employer
  2. emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine
  3. any release of source, byproduct, or special nuclear material from a nuclear incident as those terms are defined in the Atomic Energy Act of 1954, as amended.
  4. the normal application of fertilizer.
- *Exempt USTs* - any installation defined as exempt under Federal UST regulations and the following installations:
  1. any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act (SWDA), or a mixture of such hazardous waste and other regulated substances
  2. any wastewater treatment tank system that is part of a wastewater treatment facility regulated under the Clean Water Act (CWA)
  3. equipment or machinery that contains regulated substances for operational purposes, such as hydraulic lift tanks and electrical equipment tanks
  4. any UST system whose capacity is 110 gal or less
  5. any UST system that contains a de minimis concentration of regulated substances
  6. any emergency spill or overflow containment UST system that is expeditiously emptied after use.
- *Existing Tank System* - a tank system used to contain an accumulation of regulated substances for which installation has commenced on or before 22 December 1988. Installation is considered to have commenced if both of the following requirements are met:
  1. the installation has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system
  2. either a continuous onsite physical construction or installation program has begun, or the installation has entered into contractual obligations for physical construction at the site or installation of the tank system to be completed within a reasonable time, which cannot be cancelled or modified without substantial loss.

- *Facility* - any building, structure, installation, equipment, pipe, or pipeline; including any pipe into a sewer or publicly owned treatment works (POTW), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, aboveground tank, UST, motor vehicle, rolling stock, aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of or placed, or otherwise come to be located; and where a release has occurred or where there is a threat of a release; but does not include any consumer product in consumer use or any vessel.
- *Flow-Through Process Tank* - a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or byproducts from the production process.
- *Free Product* - petroleum in the nonaqueous phase (i.e., liquid not dissolved in water).
- *Gasoline* - any petroleum distillate used primarily for motor fuel of which more than 50 percent of its components have hydrocarbon numbers of C10 or less.
- *Gathering Lines* - any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.
- *Groundwater* - any water, except capillary moisture, beneath the land surface or beneath the bed of any stream, lake, reservoir, or other body of surface water within the boundaries of the state, whatever the geological formation or structure in which such water stands, flows, percolates, or otherwise moves.
- *Hazardous Material* - refers to one of the following:
  1. a material designated by the Commission as hazardous
  2. hazardous waste
  3. radioactive waste, radioactive material identified by the Oregon Energy Facility Sitting Council and radioactive substances
  4. communicable disease agents as regulated by the Oregon Health Division
  5. hazardous substances designated by the U. S. Environmental Protection Agency (USEPA) under the Federal Water Pollution Control Act, as amended.
- *Hazardous Substance Underground Storage Tank System* - a UST system that contains a hazardous substance defined in CERCLA (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum; not a petroleum UST system.
- *Heating Oil* - petroleum that is No. 1, No. 2, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils.
- *Hydraulic Lift Tank* - a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.
- *Implementing Agency* - the Oregon Department of Environmental Quality.
- *Investigation* - monitoring, surveying, testing, or other information gathering.

- *Liquid Trap* - sumps, cellars, and other traps used in association with oil and gas production, gathering, and extraction operations for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition, reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.
- *Maintenance* - the normal operational upkeep to prevent a UST system from releasing product.
- *Motor Fuel* - petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, typically used in the operation of a motor engine.
- *Native Soil* - the soil outside of the immediate boundaries of the pit that was originally excavated for the purpose of installing a UST.
- *New tank system* - a tank system that is used to contain an accumulation of regulated substances and for which installation has commenced after 22 September 1988. (See also existing tank system).
- *Nongasoline Fraction* - diesel and any other petroleum distillate used for motor fuel or heating oil of which more than 50 percent of its components have hydrocarbon numbers of C11 or greater.
- *OAR* - Oregon Administrative Rules.
- *Oil* - includes gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge or refuse, and any other petroleum-related product, waste, or fraction thereof that is liquid at a temperature of 60 ° F and pressure of 14.7 psia.
- *On the Premises Where Stored* - in this context, the term refers to a UST system located on the same property where the stored heating oil is used.
- *Operational Life* - the period beginning with the installation of the tank system and commencing until the tank system is properly closed under Subpart G.
- *Operator* - any person in control of, or having responsibility for the daily operation of the UST system, including the permittee under an issued permit.
- *ORS* - Oregon Revised Statutes.
- *Overfill Release* - a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.
- *Preliminary Compliance* - level of cleanup attained when the first sampling event following the installation of monitoring wells shows that all samples collected from the compliance monitoring points to the edge of the contaminant plume meet the required cleanup levels for all specified contaminants of concern.
- *Permitted or Authorized Release* - a release from an active facility that is subject to and in substantial compliance with a current and legally enforceable permit issued by: the Department, USEPA, or the Lane Regional Air Pollution Authority; is in conformance with Department rules or a control regulation in a State Implementation Plan; or is otherwise in conformance with the provisions of a State Implementation Plan.

- *Permittee* - the owner or a person designated by the owner who is in control of or has responsibility for the daily operation or daily maintenance of a UST under a permit issued pursuant to these rules.
- *Person* - an individual, trust, firm, joint stock company, Federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body. The term also includes a consortium, a joint venture, a commercial entity, and the U.S. Government.
- *Petroleum* - gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oil sludge, oil refuse, and crude oil fractions and refined petroleum fractions including: gasoline, kerosene, heating oils, diesel fuels, and any other petroleum-related product, waste, or fraction thereof that is liquid at a temperature of 60 °F and a pressure of 14.7 psia.

(NOTE: This definition does not include any substance identified as a hazardous waste under Federal hazardous waste regulations).

- *Petroleum Underground Storage Tank System* - any one or combination of tanks (including underground pipes connected to the tanks) that is used to contain an accumulation of petroleum and the volume of which, including the volume of the underground pipes connected to the tank, is 10 percent or more beneath the surface of the ground, including associated ancillary equipment and containment system.
- *Pipe or Piping* - a hollow cylinder or tubular conduit that is constructed of nonearthen materials.
- *Pipeline Facilities* - new and existing pipe rights-of-way and any associated equipment, facilities, or buildings. This also refers to gathering lines.
- *Regulated Substance* - the term refers to:
  1. any substance defined by CERCLA, but not including any substance regulated as a hazardous waste under subtitle C
  2. petroleum, including crude oil or any fraction thereof, that is liquid at standard conditions of temperature and pressure (60 ° F and 14.7 psia).

The term regulated substance includes petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil through processes of separation, conversion, upgrading, and finishing; such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.
- *Release or Spill* - discharge, deposit, injection, dumping, spilling, emitting, leaking, or placing of a regulated substance from a UST into the air of, into or on land, or the waters of the state, other than as authorized by a permit issued under state or Federal law.
- *Release Detection* - determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or the secondary containment around it.
- *Repair* - to restore a tank or UST system component that has caused a release of product from the UST system.
- *Reportable Quantity* - means either a quantity designated by the commission or the lesser of:
  1. the quantity designated for hazardous substances by the USEPA
  2. the quantity designated for hazardous waste under Oregon law
  3. any quantity of radioactive material, radioactive substance, or radioactive waste



4. if spilled into waters of the state, or escape into waters of the state is likely, any quantity of oil that would produce a visible oily slick, oily solids, or coat aquatic life, habitat, or property with oil, but excluding normal discharges from properly operating marine engines
  5. if spilled on land, any quantity of oil over 1 barrel
  6. 10 lb.
- *Residential Tank* - a tank located on property used primarily for single family dwelling purposes.
  - *Respond or Response* - refers to:
    1. actions taken to monitor, assess, and evaluate a spill or release, or threatened spill or release of oil or hazardous material
    2. first aid, rescue or medical services, and fire suppression
    3. containment or other actions appropriate to prevent, minimize, or mitigate damage to the public health, safety, welfare or the environment which may result from a spill or release or threatened spill or release if action is not taken.
  - *SARA* - the *Superfund Amendments and Reauthorization Act* of 1986.
  - *Seller or Distributor* - person who is engaged in the business of selling regulated substances to the owner or permittee of a UST.
  - *Septic Tank* - a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such a receptacle is distributed for disposal through the soil, and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.
  - *Soil* - any unconsolidated geologic materials including, but not limited to, clay, loam, loess, silt, sand, gravel, tills, or any combination of these materials.
  - *Stormwater or Wastewater Collection System* - piping, pumps, conduit, and any other equipment necessary to collect and transport the flow of surface water runoff resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designed to occur. The collection of stormwater and wastewater does not include treatment, except where incidental to conveyance.
  - *Surface Impoundment* - a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined by manmade materials) that is not an injection well.
  - *Tank* - a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials (i.e. concrete, steel, plastic) that provide structural support.
  - *Tank System* - see UST System.
  - *Threatened Spill or Release* - oil or hazardous material that is likely to escape or be carried into the air or into or on any land or waters of the state.
  - *Underground area* - an underground room, such as a basement, cellar, shaft, or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

- *Underground Release* - any belowground release.
- *Underground Storage Tank (UST)* - any one or combination of tanks, including connecting underground pipes, that is used to contain an accumulation of regulated substances, and the volume of which, including the volume of the connected underground pipes, is 10 percent or more beneath the surface of the ground. This term does not include any of the following:
  1. farm or residential tanks of 1100 gal or less capacity used for storing motor fuel for noncommercial purposes
  2. tanks used for storing heating oil for consumptive use on the premises where stored
  3. septic tanks
  4. pipeline facilities, including gathering lines, regulated under any of the following:
    - a. the *Natural Gas Pipeline Safety Act* of 1968
    - b. the *Hazardous Liquid Pipeline Safety Act* of 1979
    - c. in the case of an intrastate pipeline facility, state laws comparable to the above laws
  5. surface impoundments, pits, ponds, or lagoons
  6. stormwater or wastewater collection systems
  7. flow-through process tank
  8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations
  9. storage tanks situated in an underground area, such as a basement, cellar, mineworking, drift, shaft, or tunnel, if the storage tank is situated upon or above the surface of the floor.
- *Upgrade* - the addition or retrofit of some systems using cathodic protection, lining, or spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of product.
- *UST System* - an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.
- *Wastewater Treatment Tank* - a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

**RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE I (RCRA-I)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Permits and Notifications	6-1 and 6-2
Corrosion Protection and Release Detection	6-3 and 6-4
Release Response and Corrective Action for Hazardous Substance UST Systems	6-5
Remedial Action Standards	6-6
Out-of-Service UST Systems and Closures	6-7 and 6-8
Leaking Petroleum UST System Cleanup	6-9 through 6-12
Groundwater Investigation	6-13
Groundwater Cleanup	6-14
Soil Cleanup for Motor Fuel and Heating Oil	6-15



<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>PERMITS AND NOTIFICATION</b></p> <p><b>6-1.</b> Installations bringing into operation, operating, or decommissioning a UST must have a permit from the Department (OAR, Sections 340-150-002 and 340-150-030).</p> <p><b>6-2.</b> Installations upgrading an existing UST system must notify the Department (OAR, Section 340-150-003).</p>	<p>Verify that the installation has a permit for any UST in operation.</p> <p>(NOTE: The Department may issue a temporary permit addendum for special management conditions.)</p> <p>Verify that the Department has been notified of the intent to upgrade an existing UST system 30 days before work begins.</p> <p>Verify that the Department has been notified of the time and date upgrade will commence 3 days before work begins.</p> <p>Verify that the Department has been notified at least 30 days before permanent closure or change-in-service of an existing UST system.</p> <p>Verify that the Department has been notified at least 3 days before a closure or change-in-service.</p>
<p><b>CORROSION PROTECTION AND RELEASE DETECTION</b></p> <p><b>6-3.</b> UST systems deferred from fully meeting corrosion protection must be approved (40 CFR 280.11 amended by OAR, Section 340-150-003).</p> <p><b>6-4.</b> Installations with Petroleum USTs must provide specific release detection for tanks and piping (OAR, Section 340-150-003).</p>	<p>Verify that the site has been determined by a corrosion expert and the Department not to be corrosive enough to cause it to have a release due to corrosion during its operating life.</p> <p>Verify that the installation maintains records to demonstrate compliance with corrosion protection requirements for the remaining life of the tank.</p> <p>Verify that the following modifications to the Federal standards are met:</p> <ul style="list-style-type: none"> <li>- tanks of 1000 gal capacity or less are monitored using weekly tank gauging</li> <li>- only tanks of 1000 gal or less nominal capacity use manual tank gauging as the sole means of release detection</li> <li>- tanks of greater than 2000 gal do not use manual tank gauging as a means of release detection.</li> </ul> <p>(NOTE: Tanks with a capacity of 1001 to 2000 gal may use manual tank gauging in place of manual inventory control.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>RELEASE RESPONSE AND CORRECTIVE ACTION FOR HAZARDOUS SUBSTANCE UST SYSTEMS</b></p> <p><b>6-5.</b> Hazardous substance UST systems must meet Federal and state regulations upon the confirmation of a release from the UST system (OAR, Section 340-150-003).</p>	<p>Determine if the installation has one of the following UST systems, which are exempt:</p> <ul style="list-style-type: none"> <li>- UST systems exempted under the Federal regulations</li> <li>- UST systems containing petroleum</li> <li>- UST systems subject to RCRA Subtitle C Corrective Action Requirements.</li> </ul> <p>(NOTE: Corrective action for cleanup of releases from USTs containing regulated substances other than petroleum must meet the remedial action standards.)</p>
<p><b>REMEDIAL ACTION STANDARDS</b></p> <p><b>6-6.</b> Any removal or remedial action should attain a level of cleanup and prevention of further releases that assures the protection of present and future public health, safety, and welfare and the environment (OAR, Sections 340-122-040 (1), (3) and (4), and 340-122-050 (1)).</p>	<p>Verify that the removal or remedial action prevents, eliminates, or minimizes potential and actual adverse impacts from hazardous substances to:</p> <ul style="list-style-type: none"> <li>- biological receptors</li> <li>- present and future uses of the environment</li> <li>- ecosystems and natural resources</li> <li>- aesthetic characteristics of the environment.</li> </ul> <p>Verify that, in the event of a release or the threat of a release, the removal or remedial action performs the following functions:</p> <ul style="list-style-type: none"> <li>- restores the environment to background level or lowest concentration level</li> <li>- protects the background level of the environment</li> <li>- prevents or minimizes future releases and migration of hazardous substances in the environment</li> <li>- provides long-term care or management.</li> </ul> <p>Verify that any removal or remedial action attains a degree of cleanup of hazardous substances and control of further release of hazardous substances that assures protection of present and future public health, safety, and welfare, and the environment.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>OUT-OF-SERVICE UST SYSTEMS AND CLOSURES</b>  <b>6-7.</b> Installations permanently closing a UST system must follow specific requirements for disposal of all liquids and sludge removed from the tank (40 CFR 280.71(b) amended by OAR, Section 340-150-003).  <b>6-8.</b> USTs containing petroleum must be tested for the presence of a release prior to their final closure (OAR, Section 340-150-003 and 340-150-030).	<p>Verify that the installation disposes of all liquids and accumulated sludge removed from the tank by recycling or disposal as approved by the Department.</p> <p>Determine if a release is one of the following exempted releases:</p> <ul style="list-style-type: none"> <li>- those releases listed as exempt in the definitions</li> <li>- permitted releases of hazardous substances, including:             <ul style="list-style-type: none"> <li>- de minimis releases</li> <li>- releases that by their nature rapidly dissipate to undetectable or insignificant levels</li> <li>- releases specifically authorized by and in compliance with a current and legally enforceable permit issued by the Department or USEPA</li> <li>- other releases that the Commission finds pose no significant threat to present and future public health, safety, welfare, or the environment.</li> </ul> </li> </ul> <p>(NOTE: The deposition, accumulation, or migration resulting from otherwise permitted or authorized releases are not exempt.)</p> <p>Verify that the following sampling and analytical procedures are used for USTs containing petroleum:</p> <ul style="list-style-type: none"> <li>- a minimum of two samples are taken below the bottom of the tank</li> <li>- samples are taken below any piping where there is evidence of contamination.</li> </ul> <p>Verify that if contaminated soils, contaminated groundwater, or free product as a liquid or vapor is discovered, Federally recognized corrective action is begun and the Department is notified.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>LEAKING PETROLEUM UST SYSTEM CLEANUP</b></p> <p><b>6-9.</b> Installations must meet specific requirements for cleanup or remedial action of leaking petroleum USTs (OAR, Sections 340-122-215 and 340-122-220).</p> <p><b>6-10.</b> Installations must perform abatement measures and site checks upon the confirmation of a release of a regulated substance (OAR, Sections 340-122-225 and 340-122-230).</p>	<p>Verify that immediate action is taken to prevent any further release of the regulated substance into the environment.</p> <p>Verify that initial response actions are performed within 24 h after the suspicion or confirmation of a release.</p> <p>Verify that the following suspected or confirmed releases are reported to the Department within 24 h:</p> <ul style="list-style-type: none"> <li>- belowground releases from the petroleum UST system</li> <li>- aboveground releases to land from a petroleum UST system in excess of 42 gal</li> <li>- aboveground releases to land from a petroleum UST system less than 42 gal if the installation is unable to contain or clean up the release within 24 h</li> <li>- aboveground releases to water which result in a sheen on the water.</li> </ul> <p>Verify that the installation identifies and mitigates fire, explosion, and vapor hazards.</p> <p>Verify that the following abatement measures are performed:</p> <ul style="list-style-type: none"> <li>- removal of as much of the regulated substance from the UST systems as is necessary to prevent further release to the environment</li> <li>- visually inspect any aboveground releases or exposed belowground releases and prevent further migration of the released substance into surrounding soils and groundwater</li> <li>- continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures</li> <li>- remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or cleanup activities</li> <li>- investigate to determine the possible presence of free product, and begin free product removal.</li> </ul> <p>Verify that a written report summarizing the initial abatement steps and any resulting information was sent to the Department within 20 days after release confirmation.</p>



<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>6-11.</b> Installations must remove free product to the maximum extent practicable (OAR, Section 340-122-235).</p>	<p>Verify that free product removal has minimized the speed of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site.</p> <p>Verify that free product removal has minimized the speed of contamination into previously uncontaminated zones by using recovery techniques that properly treat, discharge, or dispose of recovery byproducts in meeting applicable local, state, and Federal regulations.</p> <p>Verify that the installation uses abatement of free product migration as a minimum objective for the design of the free product removal system.</p> <p>Verify that the installation handles any flammable products in a safe and competent manner to prevent fires or explosions.</p> <p>Verify that a free product removal report has been submitted to the Department within 45 days after the confirmation of a release.</p>
<p><b>6-12.</b> Installations must conduct investigations of the release, the release site, and the surrounding area possibly affected by the release to determine the full extent of the contamination (OAR, Section 340-122-240).</p>	<p>Verify that an investigation of the release site has been performed if any of the following conditions exist:</p> <ul style="list-style-type: none"> <li>- there is evidence that groundwater wells have been affected by the release</li> <li>- free product is found to need recovery</li> <li>- there is evidence that contaminated soils may be in contact with groundwater.</li> </ul> <p>Verify that installations have submitted the information collected from investigations of the release site to the Department as soon as practicable.</p> <p>Determine if the results of the investigation indicate that groundwater beyond the confines of the tank excavation has been contaminated.</p> <p>Verify that the installation carries out the additional groundwater investigation to determine the nature, magnitude, and extent of the contamination.</p> <p>Verify that the investigation data was submitted to the Department within 45 days of release confirmation.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>GROUNDWATER INVESTIGATION</b>  <b>6-13.</b> The installation must conduct a groundwater investigation if soil investigation indicates possible groundwater contamination (OAR, Sections 340-122-242 (1), (2), (3)(a), (4) and (5) and 340-122-350).	<p>Verify that a minimum of one hydraulically upgradient and two hydraulically downgradient groundwater monitoring wells, capable of adequately characterizing site hydrogeology and the vertical and horizontal magnitude and extent of contamination, are used as part of the groundwater monitoring system.</p> <p>Verify that the Department is notified of any specific site conditions that make the installation of monitoring wells impractical.</p> <p>(NOTE: All monitoring wells must be designed, completed, and, when appropriate, removed according to the Water Resources Department's Administrative Rule, Construction and Maintenance of Monitoring Wells and Other Holes in Oregon).</p> <p>Verify that the following sample requirements are met:</p> <ul style="list-style-type: none"> <li>- all sampling conforms to recommended procedures in the USEPA Test Methods for Evaluating Solid Waste</li> <li>- groundwater samples are initially taken at quarterly intervals</li> <li>- water elevation measurements are made in all monitoring wells during each sampling event, unless the Department has approved alternative methods</li> <li>- formal chain-of-custody records are prepared and maintained for each sample</li> <li>- all sampling events meet the preparation of proper field (trip) blanks, transfer blanks, and duplicates for adequate quality assurance and quality control.</li> </ul> <p>Determine the presence of any of the following hazardous constituents that are likely to be in groundwater as a result of a petroleum release, making sure all soil samples are collected at a depth greater than or equal to the depth of the water table:</p> <ul style="list-style-type: none"> <li>- at sites where gasoline, diesel, No. 1 or No. 2 heating oil, or waste oil have been released, and where either free product is found floating on the groundwater or detectable levels of total petroleum hydrocarbons (TPH) have been found in any soil sample analyze for benzene, toluene, ethylbenzene, xylenes (BTEX)</li> <li>- at sites where diesel or other nongasoline petroleum hydrocarbons have been released and where either free product is found floating on the groundwater or TPH levels greater than 100 ppm have been found in any soil sample, analyze polynuclear aromatic hydrocarbons (PAHs).</li> </ul> <p>(NOTE: Under the above conditions installations may use TPH analyses on groundwater samples as a preliminary screen. The TPH method detection limit shall be no greater than 0.5 ppm.)</p>

COMPLIANCE CATEGORY: Resource Conservation and Recovery Act - Subtitle I (RCRA-I) Oregon Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
6-13. (continued)	<ul style="list-style-type: none"> <li>- at all sites where leaded gasoline or waste oil has been released and where either free product is found floating on the groundwater or TPH levels greater than 40 ppm for leaded gasoline or 100 ppm for waste oil releases have been found in any soil sample, analyze dissolved lead.</li> </ul> <p>Verify that groundwater samples for analysis of dissolved lead are filtered immediately upon collection using a 0.45 micron filter.</p> <p>Verify that at least one sample of the waste oil contaminated soils is collected and analyzed for volatile chlorinated solvents, volatile aromatic solvents, and leachable metals. Analysis for polychlorinated biphenyls (PCB) is also required if the contamination is from a waste oil tank other than one used exclusively for storage of automotive waste oils.</p> <p>Verify use of the following analytical sampling methods:</p> <ul style="list-style-type: none"> <li>- volatile aromatic hydrocarbons are analyzed by means of USEPA Method 8020 or 8240</li> <li>- Polynuclear Aromatic Hydrocarbons (PAHs) are analyzed by means of USEPA Method 8310 or other comparable methods approved by the Department</li> <li>- 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC) are analyzed by means of USEPA Method 8010 or 8240</li> <li>- dissolved lead is analyzed by means of USEPA Method 7421</li> <li>- TPH in water are analyzed by USEPA Method 418.1</li> <li>- TPH for gasoline in soils are analyzed by Department of Environmental Quality (DEQ) Laboratory Method TPH-G</li> <li>- TPH for diesel and other nongasoline fraction hydrocarbons in soils are analyzed by either USEPA Method 418.1 using the sample extraction and preparation technique specified by the Department, or by means of the DEQ Laboratory Method TPH-D.</li> </ul> <p>(NOTE: The Department may approve alternative analytical methods.)</p>
GROUNDWATER CLEANUP	
6-14. The installation must conduct a groundwater cleanup if the groundwater investigation indicates groundwater contamination (OAR, Section 340-122-242 (3)(b), (4), (6), (7), (8) and (10)).	<p>Verify that the installation formulates a corrective action plan which meets the following requirements to monitor and remediate site groundwater contamination:</p> <ul style="list-style-type: none"> <li>- hydrogeological and contamination data support the choice of wells to be monitored</li> <li>- appropriate indicator compounds, as approved by the Department, are analyzed at regular intervals during the cleanup and monitoring phases, as specified in an approved corrective action plan</li> <li>- cleanup levels are considered</li> <li>- all contaminants of concern detected during the investigation are addressed in the corrective action plan and are analyzed to confirm preliminary and final compliance.</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>6-14. (continued)</b>	<p>Verify that the installation meets the numeric groundwater cleanup levels for a petroleum UST contaminated site (see Appendix 6-1).</p> <p>Verify that, for those sites with less stringent requirements, a risk assessment and technical feasibility study is submitted to the Department justifying levels of cleanup and showing adequate protection of the public health, safety, and welfare and the environment.</p> <p>Verify that the first sampling event following the installation of all required monitoring wells shows that all samples collected from the compliance monitoring points to the edge of the contaminant plume meet the required cleanup levels for all of the specified contaminants of concern, which signifies that preliminary compliance has been attained.</p> <p>Verify that the following conditions have been met, signifying that final compliance has been attained:</p> <ul style="list-style-type: none"> <li>- a minimum of four consecutive quarterly groundwater monitoring events have been completed following shutdown of the treatment system</li> <li>- all samples meet the required cleanup levels for all specified contaminants of concern</li> <li>- site-specific hydrogeologic and contaminant level data have been presented in a written report to the Department showing that any remaining contaminants shall not move beyond the compliance monitoring points at levels in excess of cleanup levels</li> <li>- a final report submitted to and approved by the Department.</li> </ul> <p>Verify that groundwater monitoring reports are submitted within 45 days after every required sampling event.</p>
<b>SOIL CLEANUP FOR MOTOR FUEL AND HEATING OIL</b>	
<b>6-15.</b> Releases from UST systems containing motor fuel and heating oil must meet the required Matrix cleanup levels (OAR, Sections 340-122-320 through 340-122-350, 340-122-355 (5), and 340-122-360 (1) and (2)).	<p>Verify that the installation meets the Department's Matrix cleanup level for releases of motor fuel, heating oil, and waste oil.</p> <p>Verify that the number and location of samples meets the Department's requirements.</p> <p>Verify that samples are collected using methods approved by the Department.</p> <p>Verify that analytical methods have been approved by the Department.</p> <p>Verify that all detectable levels of volatile chlorinated solvents, volatile aromatic hydrocarbons, PCBs, or leachable metals from a waste oil contamination site are reported to the Department as soon as these results are known.</p>

<b>COMPLIANCE CATEGORY:</b> <b>Resource Conservation and Recovery Act - Subtitle I (RCRA-I)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>6-15. (continued)</b>	<p>Verify that all pertinent reports and information regarding collection and analysis methods used to cleanup the release are submitted to the Department no more than 60 days after completing work at the site</p> <p>Verify that the installation retains a copy of the report.</p>



## Appendix 6-1

### Numeric Groundwater Cleanup Levels for a Petroleum UST Contaminated Site

(Source: OAR 340-122-242(4)(a))

#### Volatile Aromatic Hydrocarbons:

- benzene	5 ppb*
- ethylbenzene	700 ppb
- toluene	1000 ppb
- total xylenes	10,000 ppb

#### Gasoline Additives:

- lead	5 ppb
- 1,2 dibromoethane (ethylene dibromide, EDB)	1 ppb
- 1,2 dichloroethane (ethylene dichloride, EDC)	5 ppb

#### - polynuclear aromatic hydrocarbons (PAHs):

- carcinogenic PAHs	
-- benzo(a)pyrene	0.2 ppb
-- benzo(a)anthracene	0.1 ppb
-- benzo(b)fluoranthene	0.2 ppb
-- benzo(k)fluoranthene	0.2 ppb
-- chrysene	0.2 ppb
-- dibenzo(a,h)anthracene	0.3 ppb

- indenopyrene	0.4 ppb
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#### - noncarcinogenic PAHs:

-- acenaphthene	420 ppb
-- anthracene	2100 ppb
-- fluoranthene	280 ppb
-- fluorene	280 ppb
-- naphthalene	28 ppb
-- pyrene	210 ppb

\* ppb - parts per billion





<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Resource Conservation and Recovery Act Subtitle I (RCRA-I) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 7**

**COMPREHENSIVE ENVIRONMENTAL RESPONSE,  
COMPENSATION, AND LIABILITY ACT/  
SUPERFUND AMENDMENT AND REAUTHORIZATION ACT (CERCLA/SARA)  
AND RCRA CORRECTIVE ACTIONS**

**Oregon Supplement**

**SECTION 7**  
**COMPREHENSIVE ENVIRONMENTAL RESPONSE,**  
**COMPENSATION, AND LIABILITY ACT/SUPERFUND**  
**AMENDMENT AND REAUTHORIZATION ACT (CERCLA/SARA)**  
**AND RCRA CORRECTIVE ACTIONS**  
**Oregon Supplement**

Regulations promulgated under the authority of *CERCLA* and *SARA* are applicable to installations in Oregon. See Protocol 7 in the U.S. Environmental Compliance Assessment System (ECAS) Manual for Federal, Army, and Department of Defense (DOD) requirements.



INSTALLATION:	<b>COMPLIANCE CATEGORY:</b> Comprehensive Environmental Response, Compensation, and Liability Act / Superfund Amendment and Reauthorization Act (CERCLA/SARA) and RCRA Corrective Actions Oregon Supplement	DATE:	REVIEWER(S):
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

**SECTION 8**

**TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**Oregon Supplement**

## SECTION 8

### TOXIC SUBSTANCES CONTROL ACT (TSCA)

#### Oregon Supplement

The Oregon Administrative Rules (OAR), Chapter 340, Division 110, applies to hazardous waste management and adopts, by reference, all of the following portions of Title 40 of the Code of Federal Regulations (CFR):

40 CFR 761, as of 1 July 1989, and amendments to 40 CFR 761 in 54 FR 52716 of 21 December 1989, except Sections 761.20 through 761.30, 761.60(d)(1), 761.65(c)(7)(ii), 761.70(d)(8), 761.75(c)(7), and 761.185 through 761.193.

The requirements in this Protocol represent those Rules in Chapter 340, Division 110, that are an addition to, or a modification of, the adopted portions of 40 CFR 761.

#### Definitions

- *Commission* - the Environmental Quality Commission.
- *Department* - the Oregon Department of Environmental Quality, unless the matter is solely within the authority of the Commission.
- *Polychlorinated Biphenyl (PCB) Disposal Facility* - a facility for treatment or disposal of PCB or PCB items.
- *Permit or License* - the control document that contains the Oregon statutory requirements. Permit includes permit-by-rule and emergency permits. Permit does not, however, include any permit that has not yet been the subject of final Department action, such as a draft permit or a proposed permit.
- *Spill* - unauthorized disposal.
- *Storage or Collection* - the containment of hazardous waste either on a temporary basis or for a period of years, in a manner that does not constitute disposal of the hazardous waste.





**TOXIC SUBSTANCES CONTROL ACT (TSCA)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
PCB - Treatment and Disposal	8-1 and 8-2
Waste Oil Containing PCB	8-3
Storage for Disposal	8-4
Incineration	8-5
Landfilling	8-6

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**COMPLIANCE CATEGORY:**  
**TOXIC SUBSTANCES CONTROL ACT (TSCA)**  
**Oregon Supplement**

<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>PCB - TREATMENT AND DISPOSAL</b></p> <p><b>8-1.</b> Installations that treat or dispose of PCB or PCB items are required to meet specific requirements (OAR 340-110-060(3) and (4)).</p> <p><b>8-2.</b> Installations are required to meet specific requirements when reporting and managing leaks and spills of PCB (OAR 340-110-061(2)).</p> <p><b>WASTE OIL CONTAINING PCB</b></p> <p><b>8-3.</b> Installations are prohibited from using waste oil that contains PCB (OAR 340-110-061(6)).</p> <p><b>STORAGE FOR DISPOSAL</b></p> <p><b>8-4.</b> Installations that use containers for the disposal of PCB are required to prepare and implement a specific plan (OAR 340-110-065(2)).</p>	<p>Determine if the installation treats or disposes of PCB or PCB items.</p> <p>Verify that the installation does not treat or dispose of PCB or PCB items except at a PCB disposal facility permitted by the Department.</p> <p>Verify that the installation does not establish, construct, or operate a PCB disposal facility without a permit issued by the Department.</p> <p>Verify that the installation reports and manages spills, leaks, and other uncontrolled discharges of PCB in accordance with the requirements found under Oil and Hazardous Material Spills and Releases in the Hazardous Waste and Toxic Use Reduction Regulations.</p> <p>Verify that the installation does not use waste oil that contains any detectable concentration of PCB as a sealant coating or dust control agent or for other prohibited uses which include, but are not limited to, road oiling, general dust control, use as a pesticide carrier, and use as a rust preventative on pipes.</p> <p>Determine if the installation uses the containers for the disposal of PCB.</p> <p>Verify that the installation prepares and implements a Spill Prevention Control and Countermeasure (SPCC) plan.</p> <p>(NOTE: The installation personnel should be familiar with the sections of the SPCC plan regarding oils as PCB.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>TOXIC SUBSTANCES CONTROL ACT (TSCA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>INCINERATION</b>  <b>8-5.</b> Installations that use incinerators to dispose of PCB or PCB items must meet specific requirements (OAR 340-110-070(2) and (7)).	<p>Determine if the installation disposes of PCB or PCB items through incineration.</p> <p>Verify that the installation has obtained a permit for the incineration of PCB and that the incinerator is operated according to the specifications in the facility permit, including the PCB content of the waste.</p> <p>Verify that the incinerator incinerates more hazardous waste than PCB.</p> <p>(NOTE: The incinerator permit is specific to the permittee and is non-transferable.)</p>
<b>LANDFILLING</b>  <b>8-6.</b> Installations are required to obtain a permit for PCB landfills (OAR 340-110-075(4)).	<p>Verify that the installation has obtained a permit for any landfill which is to be used for the disposal of PCB.</p> <p>(NOTE: The permit is specific to the permittee and is nontransferable.)</p>

<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Toxic Substances Control Act (TSCA) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 9**

**FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)**

**Oregon Supplement**

**SECTION 9**  
**FEDERAL INSECTICIDE, FUNGICIDE, AND**  
**RODENTICIDE ACT (FIFRA)**  
**Oregon Supplement**

**Definitions**

The following definitions are taken from the Oregon Revised Statutes (ORS), Chapter 634.006, 634.036, and 634.500; Oregon Administrative Rules (OAR), Chapter 603, Division 57.001 (Department of Agriculture), and Chapter 340, Division 109 (Department of Environmental Quality (DEQ)).

- *Accident* - an undesirable and unintended event, caused by the use or application of pesticides, that adversely affects the environment.
- *Adulterated* - a pesticide is adulterated if:
  1. it is a pesticide other than a herbicide, defoliant, or desiccant, is intended for use on vegetation, and contains any substance that is injurious to vegetation when used as directed under normal growing conditions
  2. the strength or purity of the pesticide is below the purported or professed standard of quality as expressed in its labeling, or any substance has been substituted wholly or in part for any ingredient of the pesticide, or valuable constituent thereof has been omitted wholly or in part
  3. the contents of the package or container of pesticide do not meet their purported standard of quality in any other manner
  4. the contents of the package or container represented to be a pesticide are not definitely effective for the purpose for which recommended.
- *Aeration* - a specific treatment for decontaminating an empty volatile substance container consisting of removing the closure and placing the container in an inverted position for at least 24 h.
- *Beneficial Use* - the return of a pesticide residue or empty container without processing to the economic mainstream as a substitute for raw materials in an industrial process or as a commercial product (i.e., melting a container for scrap metal).
- *Brand* - any word, name, symbol, or any combination thereof adopted or used by a person to identify pesticides manufactured, compounded, delivered, distributed, sold, or offered for sale in this state; it distinguishes them from pesticides manufactured, compounded, delivered, distributed, sold, or offered for sale by others.
- *Commission* - the Environmental Quality Commission.
- *Defoliant* - any substance or mixture of substances intended for causing the leaves or foliage to drop from a plant with or without causing abscission.
- *Department* - the Department of Agriculture or the DEQ.
- *Desiccant* - any substance or mixture of substances intended for artificially accelerating the drying of plant tissue.

- *Device* - any instrument or contrivance containing pesticides or other chemicals intended for trapping, destroying, repelling, or mitigating insects or rodents or destroying, repelling, or mitigating fungi, nematodes, or other pests as may be designated by the Department; does not include equipment used for the application of pesticides or other chemicals when sold separately from these pesticides or chemicals.
- *Empty Container* - a container from which:
  1. all the contents have been removed that can be removed using the practices commonly employed to remove materials from that type of container
  2. a. no more than 1 in. of residue remains on the bottom of the container
  - b. no more than 3 percent of the total capacity of the container remains in the container if the container is less than or equal to 110 gal in size
  - c. no more than 0.3 percent of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gal in size
  - d. if the material is a compressed gas, the pressure in the container is atmospheric.
- *Environment* - water, air, land, and plants, humans, or other animals living therein or thereon, and the interrelationships existing among them.
- *Fungicide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any fungus.
- *Herbicide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any weed.
- *Highly Toxic* - a pesticide or device determined by the Department to be capable of causing severe injury, disease, or death to human beings.
- *Insecticide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects that may be present in any environment whatsoever.
- *Jet Rinsing* - a specific treatment for an empty container in which a nozzle is inserted into the container, or the empty container is inverted over a nozzle and all interior surfaces of the container are rinsed using an appropriate solvent.
- *Low-leaching Tributyltin Antifouling Paint or Coating* - a tributyltin-based marine antifouling paint or coating that has a steady state release rate of not more than 5.0  $\mu\text{g}/\text{cm}^2/\text{day}$  as determined in accordance with a U.S. Environmental Protection Agency (USEPA) testing procedure outlined in the USEPA data call-in notice of 29 July 1986, on tributyltin in antifoulant paints under *FIFRA*. If a lower release rate is determined by the Environmental Quality Commission to be necessary to protect health or the environment, this rate, if adopted by rule by the commission, is the acceptable release rate.
- *Multiple Rinsing* - a specific treatment for an empty container repeating the following procedure a minimum of three times:
  1. an appropriate solvent is placed in the container in an amount equal to at least 10 percent of the container volume
  2. the container is agitated to rinse all interior surfaces
  3. the container is opened and drained, allowing at least 30 s after drips start.
- *Nematocide* - any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any nematodes.



- *Nontarget Organism* - plant or animal life other than to which the pesticide is applied or intended to be applied.
- *Person* - includes individuals, corporations, associations, firms, joint stock companies, public and municipal corporations, political subdivisions of the state and any agencies thereof, and the Federal Government and any agency thereof.
- *Pesticide* - any substance or combination of substances intended for the purpose of defoliating plants or for preventing, destroying, repelling, or mitigating all insects, fungi, weeds, rodents, predatory animals, or any other form of plant or animal life that is, or that the Department declares to be a pest, which may infest or be detrimental to vegetation, humans, animals, or be present in any environment thereof, including defoliants, desiccants, fungicides, herbicides, insecticides, nematocides, and plant regulators.
- *Pesticide Applicator* - a person who:
  1. is spraying or applying pesticides for others
  2. is authorized to work for and is employed by a pesticide operator and
  3. is in direct charge of or supervises the spraying or application of pesticides or operators, uses, drives, or physically directs propulsion of equipment, apparatus, or machinery, either on the ground or by aircraft in this activity.
- *Pesticide Consultant* - a person, including government employees, who offers or supplies technical advice, supervision, aid, or recommendations to the user of pesticides classified by the Department as restricted-use or highly toxic pesticides, whether licensed as a pesticide dealer or not.
- *Pesticide Dealer* - a person who sells, offers for sale, handles, displays, or distributes any pesticide classified by the Department as a restricted-use or highly toxic pesticide.
- *Pesticide Equipment* - any equipment, machinery, or device used in the preparation for use or application of pesticides, including, but not limited to, aircraft, ground- spraying equipment, hoppers, tanks, booms, and hoses.
- *Pesticide Operator* - a person who owns or operates a business engaged in the application of pesticides on the land or property of another.
- *Pesticide Residue* - substances produced by the use of pesticides, including, but not limited to, unused commercial pesticides or spray mixtures, container rinsings, and pesticide equipment washings.
- *Pesticide Trainee* - a person who:
  1. is employed by a pesticide operator
  2. is working and engaged in a training program under special certificate to qualify as a pesticide applicator.
- *Plant Regulator* - any substance or mixture of substances intended, through physiological action, to accelerate or retard the rate of growth or rate of maturation, or to otherwise alter the behavior of ornamental or crop plants or the produce thereof, but does not include substances to the extent that they are intended as plant nutrients, trace elements, nutritional chemicals, plant inoculants, or soil amendments.
- *Private Applicator* - a person who uses or supervises the use of any pesticide, classified by the Department as a restricted-use or highly toxic pesticide, for the purpose of producing agricultural commodities or forest crops on land owned or leased by the person.

- *Professed Standard of Quality* - a plain and true statement of the name and percentage of each active ingredient and the total percentage of all inert ingredients contained in any pesticide.
- *Protected Area* - an area established by the *Pesticide Control Act* to prohibit or restrict the application of pesticides.
- *Public Applicator* - a person who is an employee of a governmental body and who performs or carries out the work, duties, or responsibilities of a pesticide applicator.
- *Public Trainee* - a person who is an employee of a governmental body and who performs or carries out the work, duties, or responsibilities of a pesticide trainee.
- *Restricted Area* - an area established by the *Pesticide Control Act* to restrict, but not prohibit, the application of pesticides.
- *Restricted-use Pesticide* - any pesticide or device that the Department has found and determined to be so injurious or detrimental to persons, pollinating insects, bees, animals, crops, wildlife, land, or environment, other than the pests it is intended to prevent, destroy, control, or mitigate, that additional restrictions are required.
- *Reuse* - the return of a commodity to the economic mainstream for use in the same kind of application as before without change in its identity (e.g. a container used to repackage a pesticide formulation).
- *Tributyltin-based Marine Antifouling Paint or Coating* - a paint, coating, or treatment that contains tributyltin or a triorganotin compound used as a substitute for tributyltin, that is intended to control fouling organisms in a freshwater or marine environment.
- *Waters of the State* - includes lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon, and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), that are wholly or partially within, or bordering the state, or within its jurisdiction.
- *Weed* - any plant that grows where not wanted.

**FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Licensing	9-1
Permits	9-2
Records	9-3
Pesticide Labeling	9-4
Pesticide Use	9-5
Pesticide Residues	9-6
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Tributyltin Compounds	9-8
Arsenic and Fluorides	9-9
High Volatile Esters (2,4-D)	9-10
Chlordane and Heptachlor	9-11
Sodium Cyanide and the M-44 Device	9-12
Sodium Fluoroacetate	9-13 through 9-16

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**COMPLIANCE CATEGORY:**  
**FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)**  
**Oregon Supplement**

**REGULATORY  
REQUIREMENTS:**

**REVIEWER CHECKS:**

## LICENSING

**9-1.** Personnel applying highly toxic and restricted-use pesticides must be licensed (OAR 603-57-200, 603-57-525(2)(a) (I), (J), (L) ORS 634.372 (7), (8), (10), (14)).

## LICENSING

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(NOTE: See Appendixes 9-1 and 9-2 for lists of highly toxic and restricted-use pesticides.)

Verify that all personnel who buy or use highly toxic and restricted-use pesticides are licensed public applicators, licensed pesticide applicators, licensed pesticide operators, or certified private applicators.

(NOTE: Persons who do not advertise or publicly hold themselves out as being in the business of applying pesticides but whose main or principal work or business is the maintenance of small lawns, shrubs, or gardens, do not have to be licensed. They are, however, restricted to hand-powered equipment and specific pesticides).

Verify that pesticide applicators' apparatus, machinery, or equipment is operated by licensed applicators or by pesticide trainees under the supervision of licensed applicators.

Verify that all personnel holding pesticide licenses of any kind are certified in the specific categories of pesticide application that they perform.

Verify that no pesticide trainee works or engages in the application of any class of pesticides without having a pesticide trainee certificate.

Verify that personnel acting as pesticide consultants hold a pesticide consultant's license.

(NOTE: See Appendixes 9-1 and 9-2 for lists of highly toxic and restricted-use pesticides.)

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**PERMITS**

**9-2.** Application of pesticides to areas designated protected or restricted requires a permit (OAR 603-57-525(2)(a)(S)).

**PERMITS**

**9-2.** Application of pesticides to areas designated protected or restricted requires a permit (OAR 603-57-525(2)(a)(S)).

Verify that permit conditions are followed for any application of pesticides within a protected or restricted area.

**RECORDS**

**9-3.** Records of pesticide applications must be maintained (OAR 603-57-130, 603-57-525(2) (G), (H) ORS 634.116.13, 634.146).

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**9-3.** Records of pesticide applications must be maintained (OAR 603-57-130, 603-57-525(2) (G), (H) ORS 634.116.13, 634.146).

Verify that public applicators and pesticide operators maintain the following records:

- the location, date, and approximate time application was made
- the supplier, identification, and strength of the product applied
- the amount or concentration of product applied
- the specific property or the crop to which application was made
- the type of application equipment used
- the full name of the applicator or trainee who made the application.

Verify that records are maintained for 3 yr.

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- the full name of the applicator or trainee who made the application.

Verify that records are maintained for 3 yr.

<b>COMPLIANCE CATEGORY:</b> <b>FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>PESTICIDE LABELING</b>  <b>9-4.</b> Pesticides labeling must meet specific requirements (ORS 634.026(1) through (3)).	<p>Verify that, if not otherwise required by Federal law, each package or container of every pesticide is labeled with the following:</p> <ul style="list-style-type: none"> <li>- the name and address of the manufacturer or person for whom it was manufactured</li> <li>- the brand name or trademark under which the material is sold</li> <li>- the professed standard of quality of the material the net weight or volume of the contents</li> <li>- adequate and necessary directions for its proper and intended use.</li> </ul> <p>Verify that highly toxic pesticides are labeled with the following:</p> <ul style="list-style-type: none"> <li>- a sign of a skull and crossbones</li> <li>- the word poison in red on the package printed on a background of contrasting color</li> <li>- a poison antidote for the material, if any.</li> </ul> <p>(NOTE: Bleaching powder or chloride of lime are exempt from these labeling requirements.)</p>
<b>PESTICIDE USE</b>  <b>9-5.</b> Pesticide use must meet specific standards (OAR 603-57-130, 603-57-525(2)(a) (B), (E), (P), 605-57-525(2)(b)(A) ORS 634.372 (2)-(4), (16), (17)).	<p>Verify that personnel operate within the following restrictions:</p> <ul style="list-style-type: none"> <li>- do not intentionally or willfully apply a worthless pesticide or any pesticide inconsistent with its labeling</li> <li>- do not apply pesticides in a faulty, careless, or negligent manner</li> <li>- do not operate faulty or unsafe spray apparatus, aircraft, or other application device or equipment</li> <li>- do not formulate any pesticide that is adulterated</li> <li>- do not formulate any pesticide that is not registered.</li> </ul>
<b>PESTICIDE RESIDUES</b>  <b>9-6.</b> Pesticide residue and pesticide residue spill management must meet specific requirements (OAR 340-109-010).	<p>Verify that every effort is made to beneficially use or reuse pesticide residue.</p> <p>Verify that pesticide residue which is not beneficially used or reused and is produced at a permanent base of operation is managed in a facility having a Water Pollution Control Facility (WPCF) permit issued by the Department of Environmental Quality.</p> <p>Verify that pesticide residue which is not beneficially used or reused and is produced at a temporary base of operation is managed either:</p> <ul style="list-style-type: none"> <li>- at a permitted facility</li> <li>- by spraying on the ground, provided:</li> </ul>

<b>COMPLIANCE CATEGORY:</b> <b>FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>9-6. (continued)</b>	<ul style="list-style-type: none"> <li>- the residue is sprayed under pressure through a nozzle that is moving at a sufficient rate of speed so as not to saturate the ground with waste</li> <li>- the person doing the spraying owns or controls the management of the ground, or received permission from the manager, owner, or controller of the ground</li> <li>- the spray site location will not endanger surface water or groundwater, or pose a hazard to humans, wildlife (game and nongame animals), or domestic animals</li> <li>- if applied to agriculture land, the pesticide residue will not result in excessive or prohibited residuals in current or subsequent crops.</li> </ul> <p>Verify that pesticide residue spills in excess of 200 lb (approximately 25 gal) are reported to the Oregon Emergency Management Division (telephone 800-452-0311) and cleaned up in accordance with rule 340-108-010.</p>
<b>EMPTY PESTICIDE CONTAINERS</b>  <b>9-7.</b> Empty pesticide containers must be managed according to specific standards (OAR 340-109-020).	<p>Verify that the management of empty rigid pesticide containers meets the following requirements:</p> <ul style="list-style-type: none"> <li>- decontamination consists of removing any residual by:             <ul style="list-style-type: none"> <li>- jet or multiple rinsing</li> <li>- aeration of volatile substances</li> <li>- chemical washing methods such as those used to recondition metal drums</li> <li>- other methods that have been shown in the scientific literature, or by generator tests, to achieve equivalent removal</li> </ul> </li> <li>- verification consists of observing no residue on the interior surface of the container, or no turbidity (less than 5 NTU) in a sample rinse when a diluent, that does not solubilize the residue, is placed in the container to fill 5 percent of its volume and agitated for 30 s</li> <li>- alteration consists of puncturing or removing both ends and crushing the container except that             <ul style="list-style-type: none"> <li>- 30-gal or larger containers are punctured or have the ends removed but need not be crushed</li> <li>- containers to be beneficially used or reused need not be altered if alteration would interfere with this use or reuse</li> <li>- gas cylinders are altered by removing the closure valve or valve stem to ensure venting.</li> </ul> </li> </ul> <p>(NOTE: For purposes of this rule, all fumigants are considered to be volatile. Extreme caution should be exercised in altering containers having held flammable pesticides or solvents.)</p>

<b>COMPLIANCE CATEGORY:</b> <b>FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>9-7. (continued)</b>	<p>Verify that empty nonrigid pesticide containers, including paper, paper-laminated, and paper-laminated foil bags, are managed as ordinary solid waste and disposed of in one of the following ways:</p> <ul style="list-style-type: none"> <li>- a permitted solid waste landfill</li> <li>- burned in an incinerator or boiler that has been permitted by the DEQ</li> <li>- open burned in less than 50-lb lots onsite on the day of generation or as soon thereafter as feasible provided the site is not a permanent base of operation and the burning does not emit dense smoke, noxious odor, or creates a public nuisance.</li> </ul> <p>(NOTE: Open burning shall be in compliance with open burning requirements, and must protect public health and the environment. The ash and foil liners must be buried after burning.)</p> <p>Verify that empty or decontaminated pesticide containers are not used or provided for use to store food, fiber, or water intended for human or animal consumption.</p>
<b>TRIBUTYLTIN COMPOUNDS</b>	
<b>9-8.</b> Tributyltin compound use must meet specific restrictions (ORS 634.505 and 634.510).	<p>Verify that tributyltin-based marine antifouling paint or coating is applied so that tributyltin or derivative or organotin is not released into the waters of the state.</p> <p>Verify that tributyltin-based marine antifouling paint or coating meets one of the following requirements:</p> <ul style="list-style-type: none"> <li>- a low-leaching tributyltin antifouling paint or coating used on aluminum hulls</li> <li>- a low-leaching tributyltin antifouling paint or coating used on a ship that is more than 25 m in length</li> <li>- in a spray can containing 16 oz or less of paint or coating and commonly referred to as an outboard or lower drive unit paint</li> </ul>
<b>ARSENIC AND FLUORIDES</b>	
<b>9-9.</b> Arsenics and fluorides must be distinctly colored before use (OAR 605-57-525 (2)(b)(H)).	<p>Verify that all formulations of powdered pesticide containing arsenic and any highly toxic fluoride are distinctly colored.</p>



**COMPLIANCE CATEGORY:**  
**FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)**  
**Oregon Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>HIGH VOLATILE ESTERS (2,4-D)</b></p> <p><b>9-10.</b> High volatile esters require specific treatment (OAR 603-57-301 through 603-57-320, 603-57-525(2)(a)(T), and ORS 634.322(10)).</p>	<p>Verify that the high volatile esters of 2,4-D (2,4-dichlorophenoxyacetic acid), including the methyl, ethyl, propyl, butyl, and amyl esters thereof, are not applied to any lands situated north of Interstate Highway 80N within the Counties of Morrow and Umatilla, excluding therefrom land presently subject to the East Umatilla Chemical Control District Order, or applied between 1 April and 1 September of each year, without first receiving a permit from the Department of Agriculture.</p> <p>Verify that no person uses isopropyl ester of 2,4-D, or any other ester of equal or higher volatility with regard to plant damage, without first obtaining a permit from the state forester.</p>
<p><b>CHLORDANE AND HEPTACHLOR</b></p> <p><b>9-11.</b> Use of chlordane or heptachlor is subject to special restrictions (OAR 603-57-377).</p>	<p>Verify that any pesticide containing chlordane or heptachlor is applied only as a soil treatment.</p> <p>Verify that any application of a pesticide containing chlordane or heptachlor is as a dilute emulsion to soil surface where the soil will be covered by a concrete slab within 24 h, or a dilute emulsion injected into the soil.</p> <p>Verify that if the application or use is as a dilute emulsion to soil in a trench, the trench is covered with untreated soil or other suitable barrier immediately following the application.</p> <p>Verify that these pesticides are not used to treat the following:</p> <ul style="list-style-type: none"> <li>- soil beneath a structure containing a cistern or well</li> <li>- soil that is saturated with water</li> <li>- soil that is frozen</li> <li>- soil that is located in an area intended as a plenum air space.</li> </ul>
<p><b>SODIUM CYANIDE AND THE M-44 DEVICE</b></p> <p><b>9-12.</b> Sodium cyanide and the M-44 device are subject to special restrictions (OAR 603-57-335).</p>	<p>Verify that sodium cyanide and the M-44 device are used only on coyotes.</p>

COMPLIANCE CATEGORY: FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) Oregon Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>9-12. (continued)</b></p> <p><b>SODIUM FLUOROACETATE</b></p> <p><b>9-13.</b> Sodium fluoroacetate (1080) is subject to special restrictions (OAR 603-57-360).</p> <p><b>9-14.</b> Use of sodium fluoroacetate on agricultural land is subject to special restrictions (OAR 603-57-365).</p> <p><b>9-15.</b> Use of sodium fluoroacetate in and around structures is subject to special restrictions (OAR 603-57-370).</p>	<p>Verify that records are made and maintained by each user of sodium cyanide and the M-44 device, including the following:</p> <ul style="list-style-type: none"> <li>- species and number of animals eradicated, whether target or non-target, and the dates and locations thereof</li> <li>- numbers and locations of devices emplaced, with dates of installations and retrievals</li> <li>- numbers and locations of warning signs posted.</li> </ul> <p>Verify that these records are maintained for at least 1 yr.</p> <p>Verify that sodium fluoroacetate is not used on any vertebrates except rodents (i.e., rats, ground squirrels, moles, gophers, etc.)</p> <p>Verify that prior to any intended use or application of sodium fluoroacetate (1080), the public applicator or pesticide applicator submits a written notice of intended use or application, as prescribed by the Department.</p> <p>Verify that aerial application is confined to open and separate fields of sufficient size to avoid probable contamination of water courses, residential areas, public roads, and farm structures.</p> <p>Verify that baits in the form of treated seed or grain are dyed red, green, or yellow, so as to mitigate the attraction of game birds.</p> <p>Verify that pesticide operators who formulate sodium fluoroacetate (1080) baits or liquid concentrates for use in their operations retain these products in their continuous custody until used or applied by pesticide applicators under their supervision and do not distribute these products to other persons.</p> <p>Verify that sodium fluoroacetate used in or adjacent to structures (i.e., food storage warehouses, feed mills, grain elevators, flour mills, etc.) is used only in protected bait stations (boxes) that are firmly attached to the building structure or secured to the floor level so as to prevent their movement or being overturned.</p> <p>Verify that bait stations are kept locked except when being serviced.</p> <p>Verify that bait stations (boxes) are of sufficiently solid construction to prevent their being broken or crushed from accidental blows.</p>

**COMPLIANCE CATEGORY:**  
**FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)**  
**Oregon Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>9-15. (continued)</b></p>	<p>Verify that water solutions of sodium fluoroacetate (1080) are colored with 0.5 percent Nigrosine black dye.</p> <p>Verify that only leak-proof receptacles in locked bait stations are used to hold liquid solutions.</p> <p>Verify that legible warning signs are placed and maintained on bait stations indicating that a poison is contained therein.</p> <p>Verify that all persons normally situated in or about a building where sodium fluoroacetate (1080) is used, particularly the owner or manager in charge, are directly advised by the public applicator or pesticide applicator that:</p> <ul style="list-style-type: none"> <li>- sodium fluoroacetate (1080) is being used and its locations</li> <li>- sodium fluoroacetate (1080) is highly toxic</li> <li>- it is necessary to protect stored foods and other products from contamination.</li> </ul>
<p><b>9-16.</b> Specific records of sodium fluoroacetate use must be maintained (OAR 603-57-375).</p>	<p>Verify that the public applicator or pesticide operator employing the pesticide applicator makes and maintains records of sodium fluoroacetate including, but not limited to, the following:</p> <ul style="list-style-type: none"> <li>- the name and address of the person for whom the use or application was made and the name and address of the pesticide applicator (if other than the recorder)</li> <li>- the location and size of agricultural or rangeland areas (fields) in which the sodium fluoroacetate (1080) was used or applied</li> <li>- the date of use or application, method of use or application (ground or air), rate of use or application, and formula concentration and bait type used or applied</li> <li>- the number of nontarget animals eradicated.</li> </ul>



## Appendix 9-1

### Highly Toxic Pesticides

(Source: OAR 603-57-210)

Active Ingredient	Formulation	Use Pattern
acrolein	as sole active ingredient	all uses
aldicarb - temik	as sole active ingredient all formulations	ornamental uses - indoor and outdoor agricultural uses
aluminum phosphide - phostoxin	as sole active ingredient	all uses
arsenic pentoxide	all formulations	wood preservative uses
arsenic trioxide (white arsenic)	concentrations greater than 1.5%	all uses
avitrol	all formulations	all uses
azinphos methyl - guthion	all formulations	all uses
bromadiolone	Maki Urban Rat and Mouse Meal Bait	USEPA Reg. No. 7173-186
calcium cyanide	as sole active ingredient	all uses
carbophenothion - trithion	all formulations	all uses
chlorfenvinphos	concentrated solutions and emulsifiable concentrates 21% and greater	all uses
chlorophacinone - rozol	all formulations tracking powder, dust, and ready-to-use formulations, 0.2% and greater, (USEPA Reg. Nos. 7173-13 and 7173-172)	all uses inside buildings
chloropicrin	all formulations; all formulations greater than 2%; all formulations 2% and less	rodent control all uses outdoor use other than rodent control

**Appendix 9-1 (continued)**

<b>Active Ingredient</b>	<b>Formulation</b>	<b>Use Pattern</b>
chromated arsenicals	all formulations	all wood preservative uses except commercial construction brush-on
cyanide (inorganic)	in any form	all uses
demeton - systox	all granulars, emulsifiable concentrates, and concentrate solutions; 1% fertilizer formulations	all uses all uses
dicrotophos - bidrin	liquid formulations 8% and greater	all uses
diritro-O-cresol and its salts - DNOC	in any form	all uses
dinoseb, 2-(sec-butyl)-4, 6-dinitrophenol and any of its salts - DNBP, dinitro, dinoseb	all formulations	all uses
dioxathion - delnav	concentrated solutions and emulsifiable concentrates greater than 30%; concentrated solutions 3% and greater	all uses domestic uses
disulfoton - disyston	all end-use formulations greater than 2%	all uses
endothal	concentrations 20% and greater	all uses
endrin	all formulations	all uses
epn	all formulations greater than 4%	all uses
ethoprop - mocap	emulsifiable concentrates 40% and greater; all granular formulations	all uses all uses
ethyl parathion	all formulations	all uses

Appendix 9-1 (continued)

Active Ingredient	Formulation	Use Pattern
fenamiphos - nemacur	emulsifiable concentrates 35% and greater	all uses
fensulfothion - desanit	concentrated solutions 63% and greater; all formulations containing disulfoton (disyston) at 2% or greater; all granular formulations	all uses all uses all uses
fluoroacetamide - 1081	95% concentrates for dilution into moist solid baits	inside sewers
fonofos - dyfonate	emulsifiable concentrates 44% and greater; granular formulations 20% and greater	all uses all uses
hydrocyanic acid	as sole active ingredient	all uses
magnesium phosphide	all formulations	all uses
mercury compounds	in any form except formulations used in the manufacture of paints	all uses
methamidophos - monitor	liquid formulations 40% and greater; dust formulations 2.5% and greater	all uses all uses
methidathion	all formulations	all uses except nursery stock, safflower, and sunflower
methomyl - lannate - nudrin	all concentrated solution formulations; 90% wettable powder formulations that are not in water soluble bags; as sole active ingredient in 1% to 2.5% baits, except fly bait	all uses all uses all uses

Appendix 9-1 (continued)

Active Ingredient	Formulation	Use Pattern
methyl bromide	all formulations.	all uses
methyl parathion	all formulations.	all uses
mevinphos - phosdrin	all emulsifiable concentrates, liquid concentrates, and liquid formulations; dust formulations 2% and greater	all uses all uses
monocrotophos - azodrin	liquid formulations 19% and greater	all uses
nicotine (alkaloid)	all formulations all formulations 14% and greater	application to cranberries indoor greenhouse use
oxamyl - vydate L	USEPA Reg. No. 352-372.	
paraquat dichloride and paraquat bis (methyl sulfate)	all formulations and concentrates except a) pressurized spray can with 0.44% paraquat bis (methyl sulfate) and 15% petroleum distillate as active ingredient b) liquid fertilizer with 0.025% paraquat dichloride and 0.03% atrazine c) liquid fertilizer with 0.03% paraquat dichloride and 0.37% atrazine d) liquid fertilizer with 0.04% paraquat dichloride and 0.49% atrazine	all uses spot weed and grass control
pentachlorophenol - PCP, PENTA	all formulations	wood preservative uses
phorate - thimet	liquid formulations 65% and greater; all granular formulations	all uses all uses



**Appendix 9-1 (continued)**

<b>Active Ingredient</b>	<b>Formulation</b>	<b>Use Pattern</b>
phosphamidon - dimecron	liquid formulations 75% and greater; dust formulations 1.5% and greater	all uses all uses
phosphorus pastes	in any form	all uses
potassium pentachlorophenate	all formulations	wood preservative uses
potassium tetrachlorophenates	all formulations	wood preservative uses
sodium arsenate	all formulations	wood preservative uses
sodium arsenite	concentrations greater than 2.5%	all uses
sodium cyanide	all capsule and ball formulations	all uses
sodium fluoroacetate - 1080	all solutions and dry baits.	all uses
sodium pentachlorophenate	all formulations	wood preservative uses
starlicide	gull toxicant 98% concentrate, USEPA Reg. No. 6704-77	all uses
strychnine	all dry baits, pellets, and powder formulations greater than 0.5%; all dry baits, pellets, and powder formulations; all dry baits, pellets, and powder formulations 0.5% and below	all uses  all uses requiring a burrow builder all uses except below ground hand applications
sulfotepp - bladafum	all sprays and smoke generators	all uses

**Appendix 9-1 (continued)**

Active Ingredient	Formulation	Use Pattern
terbufos - counter	all granular formulations 15% and greater	all uses
tetraethyl	all emulsifiable concentrate	all uses
pyrophosphate - TEPP	formulations	
tralomethrin	all formulations	all uses
zinc phosphide	all bait formulations except 1-2% formulations in and around buildings; dry formulations 60% and greater; dry formulations 10% and greater	nondomestic outdoor uses  all uses  domestic uses

## Appendix 9-2

### Restricted-Use Pesticides

(Source: OAR 603-57-200)

Active Ingredient	Formulation	Use Pattern
acrylonitrile	in combination with carbon tetrachloride	all uses
aldrin	all formulations	all uses
allyl alcohol	all formulations	all uses
alpha chlorohydrin - epibloc	USEPA Reg. No. 42882-1	
amitraz - baam	all formulations (pears)	
amitrole	all formulations	all uses except homeowner uses
cadmium	in any form	all uses
captafol - difolatan	all formulations	all uses
carbofuran - furadan	all concentrate suspensions and wettable powders 40% and greater; all granular formulations	all uses all uses
chlordane	all formulations	all uses
chlordimeform	all formulations	all uses
clonitralid - bayluscid	wettable powders 70% and greater; all granulars and wettable powders	all uses molluscicide uses
coal tar creosote	all formulations	wood preservative uses
creosote	all formulations	wood preservative uses
cyanazine - bladex	all formulations	all uses

**Appendix 9-2 (continued)**

Active Ingredient	Formulation	Use Pattern
cycloheximide - acti-aid - acti-dione	all formulations 0.027% and above; all formulations less than 0.027%	all uses  domestic uses
cypermethrin - ammo, cymbush	emulsifiable concentrates 30% and greater	agricultural use
diallate pyradex	all formulations	all uses
diclofop methyl - hoelon	all formulations	all uses
dieldrin	all formulations	all uses
diflubenzuron - dimilin	wetable powders	all uses
dodemorph acetate - milban	all formulations	all uses
ethion	concentrations 26% and greater	all uses
fenvelerate - pydrin	emulsifiable concentrates 30% or greater	outdoor uses
flucythrinate - pay-off	emulsifiable concentrates 30% or greater	USEPA Reg. No. 241-259
heptachlor	all formulations	all uses
isofenphos	all formulations	all uses except: amaze 20% G, USEPA Reg. No. 3125-324 amaze 15%, USEPA Reg. No. 3125-323
lindane	all formulations	commercial ornamentals, avocados, pecans, livestock, forestry, Christmas trees, structural treatment, dog shampoos, dog dusts
methiocarb - mesural	USEPA Reg. Nos. 4-254 and 2393-337	blackbirds in newly planted corn

Appendix 9-2 (continued)

Active Ingredient	Formulation	Use Pattern
permethrin - ambush, pounce	all formulations	agricultural uses except livestock
phosacetim	baits 0.1% and greater	all uses.
picloram	all formulations and concentrations except Tordon 101R, USEPA Reg. No. 464-510, and Tordon RTU, USEPA Reg. No. 464-510	all uses.
profenofos	emulsifiable concentrates 59.4% and greater	Curacron 6E, USEPA Reg. No. 100-599
pronamide - kerb	all formulations except those in water soluble packets	
propetamphos - safrotin	emulsifiable concentrates 50% and greater	
Sulfuryl fluoride - vikane	all formulations	all uses
sulprofos - bolstar	all formulations	all uses
toxaphene	all formulations	all uses
tributyltin based marine antifouling paint or coating	all formulations (except in spray cans of 16 oz or less or labeled for use only on aluminum outdrive and engine components	
triphenyltin hydroxide - du-ter	all formulations	all uses
2, 4, 5-trichloro- phenoxyacetic acid 2, 4, 5-T	in any form	all uses
2 (2, 4, 5-tri- chlorophenoxy) propionic acid silvex 2, 4, 5-TP	in any form	all uses



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

**SECTION 10**

**NATIONAL HISTORIC PRESERVATION ACT (NHPA)  
AND CULTURAL RESOURCES**

**Oregon Supplement**



**SECTION 10**  
**NATIONAL HISTORIC PRESERVATION ACT (NHPA)**  
**AND CULTURAL RESOURCES**  
**Oregon Supplement**

**Definitions**

These definitions were obtained from the Oregon Administrative Rules (OAR) 603, Division 73.

- *Archaeological Object* - an object that:
  1. is at least 75 yr old
  2. comprises the physical record of an indigenous and subsequent culture
  3. is material remains of past human life or activity that are of archaeological significance, including, but not limited to, monuments, symbols, tools, facilities, technological by-products, and dietary by-products.
- *Archaeological Site* - a geographic locality, including, but not limited to, submerged and submersible lands and the bed of the sea within the state jurisdiction, that contains archaeological objects and the contextual associations of the objects with each other; biotic or geological remains or deposits.



**NATIONAL HISTORIC PRESERVATION ACT (NHPA)  
AND CULTURAL RESOURCES  
GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Historic Preservation	10-1
Archaeological Resources	10-2 and 10-3

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<b>COMPLIANCE CATEGORY:</b> <b>NATIONAL HISTORIC PRESERVATION ACT (NHPA) AND CULTURAL RESOURCES</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>HISTORIC PRESERVATION</b>  <b>10-1.</b> Installations must have a conservation plan for any real property of historical significance (Oregon Revised Statutes (ORS) 358.653).  <b>ARCHAEOLOGICAL RESOURCES</b>  <b>10-2.</b> Installations must take specific measures to protect archaeological resources (ORS 358.920).  <b>10-3.</b> Installations are required to protect native Indian graves and cairns and artifacts (ORS 97.745).	<p>Determine if the installation is responsible for any property of historical significance.</p> <p>Verify that property of historical significance is not inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate.</p> <p>Verify that no person excavates, injures, destroys, or alters an archaeological site or systematically removes any archaeological object located on public lands unless specifically authorized by a permit.</p> <p>Verify that no person willfully removes, mutilates, defaces, injures, or destroys any cairn or grave of any native Indian.</p> <p>Verify that no person possesses or displays any native Indian artifacts or human remains taken from any native Indian cairn or grave.</p>

<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> National Historic Preservation Act (NHPA) and Cultural Resources Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 11**

### **NATURAL RESOURCES MANAGEMENT**

#### **Oregon Supplement**

# SECTION 11

## NATURAL RESOURCES MANAGEMENT

### Oregon Supplement

#### Definitions

These definitions were obtained from the Oregon Administrative Rules (OAR) 603, Division 73.

- *Commission* - the State Fish and Wildlife Commission.
- *Department* - the State Department of Agriculture.
- *Director* - the Director of Agriculture.
- *Endangered Species* -
  1. any native, wildlife species determined by the Commission to be in danger of extinction throughout any significant portion of its range within the state.
  2. any native, wildlife species listed as an endangered species pursuant to the *Federal Endangered Species Act* of 1973.
- *Take* - to kill or obtain possession or control of any wildlife.
- *Threatened Species* -
  1. any native, wildlife species the Commission determines is likely to become an endangered species within the foreseeable future throughout any significant portion of its range within the state.
  2. any native, wildlife species listed as a threatened species pursuant to the *Federal Endangered Species Act* (ESA) of 1973.





**NATURAL RESOURCES MANAGEMENT**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
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All Installations	11-1 and 11-2
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**COMPLIANCE CATEGORY:**  
**NATURAL RESOURCES MANAGEMENT**  
**Oregon Supplement**

REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>ALL INSTALLATIONS</b></p> <p><b>11-1.</b> Installations must take specific measures to protect endangered and threatened species (OAR 603-73-100).</p> <p><b>11-2.</b> Installations must take specific measures to manage and preserve natural estuaries (OAR 660-17-025).</p>	<p>Verify that the installation does not permit the import, export, propagation, taking, transport, or selling of any threatened or endangered species (see Appendix 11-1) without a written permit from the Director.</p> <p>Determine if the installation conducts any activities within or that may affect natural estuaries.</p> <p>Verify that activities which would change, alter, or destroy the natural resources and natural processes of estuaries, waste discharges, and structural changes are not permitted.</p> <p>(NOTE: Undeveloped, low intensity, water-dependent recreation, navigation aids, preservation activities, maintenance of existing manmade features, and passive restoration measures are permitted in estuary areas.)</p>



## Appendix 11-1

### Oregon Threatened and Endangered Species

(Source: OAR 603-73-070)

SCIENTIFIC NAME	COMMON NAME	STATUS
<b>MAMMALS</b>		
<i>Canis lupus</i>	Gray wolf	E*
<i>Eschrichtius robustus</i>	Gray whale	E
<i>Balaenoptera borealis</i>	Sei whale	E
<i>Physeter macrocephalus</i>	Sperm whale	E
<i>Balaenoptera musculus</i>	Blue whale	E
<i>Megaptera novaeangliae</i>	Humpback whale	E
<i>Balaena glacialis</i>	Black right whale	E
<i>Balaenoptera physalus</i>	Fin whale	E
<i>Vulpes macrotis</i>	Kit fox	T*
<i>Gulo gulo</i>	Wolverine	T
<i>Enhydra lutris</i>	Sea otter	T
<i>Odocoileus virginianus leucurus</i>	Columbian white-tailed deer	E
<b>BIRDS</b>		
<i>Diomedea albatross</i>	Short-tailed albatross	E
<i>Pelecanus occidentalis</i>	Brown pelican	E
<i>Branta canadensis leucopareia</i>	Aleutian Canada goose	E
<i>Haliaeetus leucocephalus</i>	Bald eagle	T
<i>Falco peregrinus anatum</i>	American peregrine falcon	E
<i>Falco peregrinus tundrius</i>	Arctic peregrine falcon	T
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	T
<i>Sterna antillarum browni</i>	California least tern	E
<i>Strix occidentalis caurina</i>	Northern spotted owl	T
<b>AMPHIBIANS and REPTILES</b>		
<i>Chelonia mydas</i>	Green sea turtle	E
<i>Dermochelys coriacea</i>	Leatherback sea turtle	E
<i>Caretta caretta</i>	Loggerhead sea turtle	T
<i>Lepidochelys olivacea</i>	Pacific ridley sea turtle	T

Appendix 11-1 (continued)

SCIENTIFIC NAME	COMMON NAME	STATUS
<b>FISH</b>		
<i>Gila bocolor</i> ssp.	Hutton spring tui chub	T
<i>Gila boraxobius</i>	Borax Lake chub	E
<i>Rhinichthys osulus</i> ssp. *	Foskett spring speckled dace	T
<i>Catostomus warnerensis</i>	Warner sucker	T
<i>Oncorhynchus clarki henshawi</i>	Lahontan cutthroat	T
<i>Deltistes luxatus</i>	Lost River sucker	E
<i>Chasmistes brevirostris</i>	Shortnose sucker	E
<b>PLANTS</b>		
<i>Abronia umbellata</i>	Pink sand-verbena	E
<i>Astragalus applegatei</i>	Applegate milk-vetch	E
<i>Calochortus umpquaensis</i>	Umpqua mariposa lily	E
<i>Erigeron decumbens</i>	Willamette daisy	E
<i>Haplopappus radiatus</i>	Snake River goldenweed	E
<i>Lilium occidentalia</i>	Western lily	E
<i>Lomatium bradshawii</i>	Bradshaw's desert parsley	E
<i>Lomatium cookii</i>	Cook's desert parsley	E
<i>Mirabilis macfarlanei</i>	Macfarlane's four-o'clock	E
<i>Plagiobothrys hirtus</i>	Rough allocarya	E
<i>Stephanomeria malheurensis</i>	Malheur wire-lettuce	E
<i>Thelypodium howellii</i>	Howell's thelypody	E
<i>Amsinckia carinata</i>	Malheur valley fiddleneck	T
<i>Lomatium greenmanii</i>	Greenman's desert parsley	T
<i>Luina serpentina</i>	Colonial luina	T
<i>Mentzelia packardiae</i>	Packard's mentzelia	T
<i>Pleuropogon oregonus</i>	Oregon semaphoregrass	T
<i>Senico ertterae</i>	Ertter's senecio	T
<i>Sidalcea nelsoniana</i>	Nelson's checker-mallow	T

\* An asterisk denotes those species listed by the Federal Government; T = Threatened, E = Endangered.

<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Natural Resources Management Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		



## **SECTION 12**

**NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

**Oregon Supplement**

**SECTION 12**  
**NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**  
**Oregon Supplement**

Regulations promulgated under the authority of *NEPA* are applicable to installations in Oregon. See Protocol 12 in the U.S. Environmental Compliance Assessment System (ECAS) Manual for Federal, Army, and Department of Defense (DOD) requirements.



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> National Environmental Policy Act (NEPA) Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

**SECTION 13**

**ASBESTOS MANAGEMENT PROGRAM**

***Oregon Supplement***

## SECTION 13

### ASBESTOS MANAGEMENT PROGRAM

#### Oregon Supplement

#### Definitions

These definitions were obtained from the Oregon Administrative Rules (OAR) 340-25-455.

- *Asbestos* - the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, actinolite, and tremolite.
- *Asbestos Abatement Project* - any demolition, renovation, repair, construction, or maintenance activity of any public or private facility that involves the repair, enclosure, encapsulation, removal, salvage, handling, or disposal of any material with the potential of releasing asbestos fibers from asbestos-containing material (ACM) into the air.
- *Asbestos-Containing Material (ACM)* - asbestos or any material containing at least 1 percent asbestos by weight, including particulate asbestos material.
- *Asbestos-Containing Waste Material* - any waste that contains commercial asbestos and is generated by a source subject to OAR 340, or friable asbestos material including, but not limited to: asbestos mill tailings, control device asbestos waste, friable asbestos waste material, asbestos abatement project waste, and bags or containers that previously contained commercial asbestos.
- *Asbestos Mill* - any facility engaged in the conversion or any intermediate step in the conversion of asbestos ore into commercial asbestos.
- *Asbestos Tailings* - any solid waste product of asbestos mining or milling operations containing asbestos.
- *Commercial Asbestos* - any variety of asbestos produced by extracting asbestos from asbestos ore.
- *Commission* - the Environmental Quality Commission.
- *Demolition* - the wrecking or removal of any structural member of a facility together with related handling operations.
- *Department* - the Department of Environmental Quality.
- *Facility* - all or part of any public or private building, structure, equipment, vehicle, or vessel, including, but not limited to, ships.
- *Friable Asbestos Material* - any ACM that hand pressure can crumble, pulverize, or reduce to powder when dry.
- *Hazardous Air Contaminant* - any air contaminant considered by the Department or Commission to cause or contribute to an identifiable and significant increase in mortality or to an increase in serious irreversible or incapacitating reversible illness, and for which no ambient air standard exists.

- *HEPA Filter* - a high efficiency particulate air filter capable of filtering 0.3 micron particles with 99.97 percent efficiency.
- *Particulate Asbestos Material* - any finely divided particles of asbestos material.
- *Renovation* - altering in any way one or more facility components. Excluded are operations in which load-supporting structural members are wrecked or removed.
- *Startup* - commencement of operation of a new or modified source resulting in release of contaminants to the ambient air.
- *Structural Member* - any load-supporting member of a facility, such as beams and load-supporting walls, or any nonsupporting member, such as ceilings and nonload-supporting walls.

**ASBESTOS MANAGEMENT PROGRAM**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
Asbestos Permits	13-1 through 13-3
Asbestos Abatement Projects - Notification	13-4
Small Scale Asbestos Abatement Projects	13-5
Work Practices and Procedures	13-6
Spray-On Applications	13-7
Air Cleaning	13-8
Insulation	13-9
Disposal of Asbestos-Containing Waste Material	13-10
Labeling	13-11
Open Storage	13-12

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**COMPLIANCE CATEGORY:  
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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>ASBESTOS PERMITS</b></p> <p><b>13-1.</b> Installations that operate sources of hazardous air contaminants are required to obtain a permit (OAR 340-25-460(2)(a)).</p> <p><b>13-2.</b> Installations are required to obtain a permit before modifying an existing source of hazardous air contaminants (OAR 340-25-460(2)(b)).</p> <p><b>13-3.</b> Installations are required to notify the Department before starting up a new source of hazardous air contaminants (OAR 340-25-460(4)).</p>	<p>Determine if the installation operates a source of hazardous air contaminants.</p> <p>Verify that the installation does not construct, establish, develop, or operate any source of hazardous air contaminants without first obtaining an Air Contaminant Discharge Permit.</p> <p>Verify that the installation does not modify any existing source of hazardous air contaminants such that emissions are significantly increased, unless the required permit has been obtained.</p> <p>Verify that the installation furnishes the Department written notification as follows:</p> <ul style="list-style-type: none"> <li>- notification of the anticipated date of startup of the source not more than 60 days nor less than 30 days prior to the anticipated date</li> <li>- notification of the actual startup date of the source within 15 days after the actual date.</li> </ul>
<p><b>ASBESTOS ABATEMENT PROJECTS - NOTIFICATION</b></p> <p><b>13-4.</b> Installations that conduct asbestos abatement projects are required to meet specific notification requirements (OAR 340-25-265(4), (5)(a)(C) and (D)).</p>	<p>Determine if the installation conducts any of the following types of asbestos abatement projects that are exempt from these requirements:</p> <ul style="list-style-type: none"> <li>- asbestos abatement conducted in a private residence which is occupied by the owner and the owner-occupant performs the asbestos abatement</li> <li>- removal of vinyl asbestos floor tile that is not attached by asbestos-containing cement, exterior asbestos roofing shingles, exterior asbestos siding, asbestos-containing cement pipes and sheets, and other materials approved by the Department, provided that precautions are taken to ensure that the materials do not become friable or release asbestos fibers, including but not limited to, the following: <ul style="list-style-type: none"> <li>- ACMs are not sanded, power sawn, or drilled</li> <li>- ACMs are removed in the largest sections practicable and carefully lowered to the ground</li> <li>- ACMs are handled carefully to minimize breakage throughout removal, handling, and transport to an authorized disposal site</li> </ul> </li> </ul>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>13-4. (continued)</b></p>	<ul style="list-style-type: none"> <li>- ACMs are wetted prior to removal and during subsequent handling, to the extent practicable</li> <li>- removal of less than 0.5 ft<sup>2</sup> of friable ACM, provided that the removal of asbestos is not the primary objective and the following conditions are met:             <ul style="list-style-type: none"> <li>- the generation of particulate asbestos material is minimized</li> <li>- no vacuuming or local exhaust ventilation and collection is conducted with equipment having a collection efficiency lower than that of a HEPA filter</li> <li>- all asbestos-containing waste materials are cleaned up using HEPA filters or wet methods</li> <li>- ACMs are wetted before removal and during subsequent handling, to the extent practicable</li> </ul> </li> </ul> <p>(NOTE: An asbestos abatement project cannot be subdivided into smaller sized units to qualify for this exemption.)</p> <ul style="list-style-type: none"> <li>- removal of ACMs which are sealed from the atmosphere by a rigid casing, provided that the casing is not broken or otherwise altered such that the asbestos fibers could be released during removal, handling, and transport to an authorized disposal site.</li> </ul> <p>(NOTE: The requirements and jurisdictions of the Department of Insurance and Finance, Accident Prevention Division and any other state agency are not affected by these rules.)</p> <p>Verify that the installation provides written notification of any asbestos abatement project to the Department at least 10 days before beginning any asbestos abatement project.</p> <p>(NOTE: Notification of less than 10 days is allowed in case of an emergency involving protection of life, health, or property. If original notification is provided by phone, written notification is to be submitted within 3 days after the start of the emergency abatement.)</p> <p>Verify that the installation notifies the Department before making any changes in the scheduled starting or completion dates or other substantial changes.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<p><b>SMALL-SCALE ASBESTOS ABATEMENT PROJECTS</b></p> <p><b>13-5.</b> Installations that engage in small-scale asbestos abatement projects are required to meet specific notification requirements (OAR 340-25-465(5)(b)(A) through (C), (5)(c)(A) through (D), and (5)(d)).</p>	<p>Verify that for small-scale asbestos abatement projects conducted at one facility, the notification is submitted as follows:</p> <ul style="list-style-type: none"> <li>- establish eligibility for use of this notification procedure with the Department prior to use</li> <li>- maintain on file with the Department a general asbestos abatement plan, including the following information: <ul style="list-style-type: none"> <li>- name and address of person intending to engage in asbestos abatement</li> <li>- contractor's Oregon asbestos abatement license number, if applicable, and certification number of the supervisor for full-scale asbestos abatement, or certification number of the trained worker for a project without a certified supervisor</li> <li>- method of asbestos abatement to be employed</li> <li>- procedures to be employed to ensure compliance with this regulation</li> <li>- names, addresses, and phone numbers of waste transporters</li> <li>- name and address or location of the waste disposal site where the asbestos-containing waste material will be deposited</li> <li>- description of asbestos disposal procedure</li> <li>- description of building, structure, facility, vehicle, or vessel to be demolished or renovated, including address or location of the site where the asbestos abatement project is to be accomplished</li> <li>- facility owner's or operator's name, address, and phone number</li> </ul> </li> <li>- provide to the Department a summary report of all small-scale asbestos abatement projects conducted at the facility in the previous 3 mo by the 15th day of the month following the end of the calendar quarter, including the following information: <ul style="list-style-type: none"> <li>- scheduled starting and completion dates of asbestos abatement work</li> <li>- description of the asbestos type, approximate asbestos content (percent), and location of the ACM</li> <li>- amount of asbestos to be abated: linear feet, square feet, thickness</li> <li>- any other information requested on the Department form</li> <li>- description of any significant variations from the general asbestos abatement plan</li> <li>- description of asbestos abatement projects anticipated for the next quarter.</li> </ul> </li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>13-5. (continued)</b>	<p>Verify that for small-scale asbestos abatement projects conducted by a contractor at one or more facilities, the notification is submitted as follows:</p> <ul style="list-style-type: none"> <li>- establish eligibility for use of this notification procedure with the Department before use</li> <li>- maintain on file with the Department a general asbestos abatement plan, including the following information: <ul style="list-style-type: none"> <li>- name and address of person intending to engage in asbestos abatement</li> <li>- contractor's Oregon asbestos abatement license number, if applicable, and certification number of the supervisor for full-scale asbestos abatement, or certification number of the trained worker for a project without a certified supervisor</li> <li>- method of asbestos abatement to be employed</li> <li>- procedures to be employed to ensure compliance with this regulation</li> <li>- names, addresses, and phone numbers of waste transporters</li> <li>- name and address or location of the waste disposal site where the asbestos-containing waste material will be deposited</li> <li>- description of asbestos disposal procedure</li> </ul> </li> <li>- provide to the Department a monthly summary of all small-scale projects performed by the 15th day of the following month, including the following information: <ul style="list-style-type: none"> <li>- description of building, structure, facility, vehicle, or vessel to be demolished or renovated, including address or location site where the asbestos abatement project is to be accomplished</li> <li>- facility owner's or operator's name, address, and phone number</li> <li>- scheduled starting and completion dates of asbestos abatement work</li> <li>- description of the asbestos type, approximate asbestos content (percent), and location of the ACM</li> <li>- amount of asbestos to be abated: linear feet, square feet, thickness</li> <li>- any other information requested on the Department form</li> <li>- description of any significant variations from the general asbestos abatement plan for each project</li> </ul> </li> <li>- provide to the Department, upon request, a list of asbestos abatement projects which are scheduled or are being conducted at the time of the request.</li> </ul>

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<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>13-5. (continued)</b></p>	<p>Verify that the following information is provided for each notification:</p> <ul style="list-style-type: none"> <li>- name and address of person intending to engage in asbestos abatement</li> <li>- contractor's Oregon asbestos abatement license number, if applicable, and certification number of the supervisor for full-scale asbestos abatement, or certification number of the trained worker for a project without a certified supervisor</li> <li>- method of asbestos abatement to be employed</li> <li>- procedures to be employed to ensure compliance with this regulation</li> <li>- names, addresses, and phone numbers of waste transporters</li> <li>- name and address or location of the waste disposal site where the asbestos-containing waste material will be deposited</li> <li>- description of asbestos disposal procedure</li> <li>- description of building, structure, facility, vehicle, or vessel to be demolished or renovated, including address or location site where the asbestos abatement project is to be accomplished</li> <li>- facility owner's or operator's name, address, and phone number</li> <li>- scheduled starting and completion dates of asbestos abatement work</li> <li>- description of the asbestos type, approximate asbestos content (percent), and location of the ACM</li> <li>- amount of asbestos to be abated: linear feet, square feet, thickness</li> <li>- any other information requested on the Department form.</li> </ul>
<p><b>WORK PRACTICES AND PROCEDURES</b></p> <p><b>13-6.</b> Installations that conduct asbestos abatement projects are required to follow specific work practices and procedures (OAR 340-25-265(6)(a) through (f)).</p>	<p>Verify that the installation employs the following work practices and procedures during an asbestos abatement project to prevent emissions of particulate asbestos material into the ambient air:</p> <ul style="list-style-type: none"> <li>- remove friable asbestos materials before any wrecking or dismantling that would break up the materials or preclude access to the materials for subsequent removal</li> </ul> <p>(NOTE: Friable asbestos materials need not be removed before demolition if they are on a facility component that is encased in concrete or other similar material, or if these materials are adequately wetted whenever exposed during demolition.)</p> <ul style="list-style-type: none"> <li>- adequately wet friable asbestos materials when they are being removed</li> </ul>



**COMPLIANCE CATEGORY:**  
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**REGULATORY REQUIREMENTS:**

**REVIEWER CHECKS:**

**13-7. (continued)**

(NOTE: In the case of any city or area of local jurisdiction with ordinances or regulations for spray application materials more stringent than those in this section, the provisions of such ordinances or regulations will apply.)

Verify that the installation reports its intention to spray asbestos materials to insulate or fireproof buildings, structures, pipes, conduits, equipment, or machinery to the Department before the commencement of the spraying operation, including the following information:

- name and address of person intending to conduct the spraying operation
- address or location of the spraying operation
- the name and address of the owner or operator of the facility being sprayed.

(NOTE: The spray-on application of materials in which the asbestos fibers are encapsulated with a bituminous or resinous binder during spraying and which are not friable after drying is exempt from the requirements of this section.)

## AIR CLEANING

**13-8.** When air cleaning is used to prevent emissions to the outside air, the filtering equipment must meet specific standards (OAR 340-25-460(9) and (10)).

Verify that fabric filter collection devices meet the following requirements:

- operated at a pressure drop of no more than 4 in. water gauge, as measured across the fabric filter
- ensure that the air flow permeability does not exceed 30 ft<sup>3</sup>/min/ft<sup>2</sup> for woven fabrics or 35 ft<sup>3</sup>/min/ft<sup>2</sup> for felted fabrics
- ensure that felted fabric weighs at least 14 oz/yd<sup>2</sup> and is at least 1/16 in. thick throughout
- avoid the use of synthetic fabrics that contain fill yarn other than that which is spun.

(NOTE: The Department may authorize variations and alternative filtering equipment.)

Verify that devices to bypass the air cleaning equipment are used only during upset or emergency conditions and then only as long as it takes to shut down the operation generating the particulate asbestos material.



COMPLIANCE CATEGORY: ASBESTOS MANAGEMENT PROGRAM Oregon Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS:
<b>INSULATION</b>  <b>13-9.</b> Installations that use molded insulating materials are required to meet specific requirements (OAR 340-25-465(12)).  <b>DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL</b>  <b>13-10.</b> Installations that dispose of friable asbestos-containing waste are required to meet specific standards (OAR 340-25-465(13)(a) through (c) and (14)).	Determine if the installation uses molded insulating materials.  Verify that molded insulating materials which are friable and wet-applied insulating materials which are friable after drying, do not contain commercial asbestos.  (NOTE: This regulation does not apply to insulating materials which are spray applied.)  Verify that the following standards are met: <ul style="list-style-type: none"> <li>- no visible emissions are emitted to the outside air during the collection, processing (including incineration), packaging, transporting, or deposition of any asbestos-containing waste material</li> <li>- all asbestos-containing waste material is disposed of at a disposal site authorized by the Department</li> <li>- records of disposal at an authorized landfill are maintained by the installation for a minimum of 3 yr and made available upon request to the Department</li> <li>- installation personnel intending to dispose of asbestos-containing waste material notify the landfill operator of the type and volume of the waste material and obtain the approval of the landfill operator before bringing the waste to the disposal site</li> <li>- all asbestos-containing waste material is wetted and stored and transported to the authorized disposal site in leak-tight containers such as two plastic bags each with a minimum thickness of 6 mil or fiber or metal drums</li> <li>- the waste transporter immediately notifies the landfill operator upon arrival of the waste at the disposal site</li> <li>- off-loading of asbestos-containing waste material is to be done under the direction and supervision of the landfill operator</li> <li>- off-loading of asbestos-containing waste material is to occur at the immediate location where the waste is to be buried</li> </ul>



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Asbestos Management Program Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 14**

### **NOISE ABATEMENT**

#### **Oregon Supplement**

# SECTION 14

## NOISE ABATEMENT

### Oregon Supplement

#### Definitions

These definitions were obtained from the Oregon Administrative Rules (OAR) 340-35-015.

- *Air Carrier Airport* - any airport that serves air carriers holding Certificates of Public Convenience and Necessity issued by the Civil Aeronautic Board.
- *Airport Master Plan* - any long-term development plan for the airport established by the airport proprietor.
- *Airport Noise Abatement Program* - a Commission-approved program designed to achieve noise compatibility between an airport and its environs.
- *Airport Proprietor* - the person who holds title to an airport.
- *Ambient Noise* - the all-encompassing noise associated with a given environment, usually a composite of sounds from many sources near and far.
- *Annual Average Day-Night Airport Noise Level* - the average, on an energy basis, of the daily Day-Night Airport Noise Level over a 12-mo period.
- *Commission* - the Environmental Quality Commission.
- *Construction* - building or demolition work, including all related activities such as clearing of land, earthmoving, and landscaping, but not including the production of construction materials.
- *Day-Night Airport Noise Level (Ldn)* - the Equivalent Noise Level produced by airport/aircraft operations during a 24-h period, with a 10 decibel (dB) penalty applied to the level measured during the nighttime hours of 10 p.m. to 7 a.m.
- *Department* - the Department of Environmental Quality.
- *Director* - the Director of the Department.
- *Emergency Equipment* - noise-emitting devices required to avoid or reduce the severity of accidents. This equipment includes, but is not limited to, safety valves and other unregulated pressure relief devices.
- *Equivalent Noise Level (Leq)* - the equivalent steady state sound level in A-weighted decibels for a stated period of time which contains the same acoustic energy as the actual time-varying sound level for the same period of time.

- *Impulse Sound* - either a single pressure peak or a single burst (multiple pressure peaks) for a duration of less than 1 s as measured on a peak unweighted sound pressure measuring instrument or C weighted, slow response instrument and specified by dB and dBC.
- *In-Use Motor Vehicle* - any motor vehicle which is not a new motor vehicle.
- *Industrial or Commercial Noise Levels* - those noises generated by a combination of equipment, facilities, operations, or activities employed in the production, storage, handling, sale, purchase, exchange, or maintenance of a product, commodity, or service, and those noise levels generated in the storage or disposal of waste products.
- *Industrial or Commercial Noise Source* - that source of noise which generates industrial or commercial noise levels.
- *Motor Vehicle* - any vehicle which is or is designed to be self-propelled or is designed for transporting persons or property. This definition excludes airplanes, but includes water craft.
- *Motorcycle* - any motor vehicle, except farm tractors, designed to travel on not more than three wheels which are in contact with the ground.
- *New Airport* - any airport for which installation, construction, or expansion of a runway commenced after 1 January 1980.
- *New Motor Vehicle* - a motor vehicle whose equitable or legal title has never been transferred to a person who in good faith purchases the new motor vehicle for purposes other than resale. The model year of this vehicle shall be the year so specified by the manufacturer, or if not so specified, the calendar year in which the new motor vehicle was manufactured.
- *Noise Impact Boundary* - a contour around the airport, any point on which is equal to the airport noise criterion.
- *Noise Level* - weighted sound pressure level measured by use of a metering characteristic with an A frequency weighting network and reported as dBA.
- *Noise Sensitive Property* - real property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner.
- *Off-Road Recreational Vehicle* - any motor vehicle, including water craft, used off public roads for recreational purposes. When a road vehicle is operated off-road, the vehicle is considered an off-road recreational vehicle if it is being operated for recreational purposes.
- *Propulsion Noise* - that noise created in the propulsion of a motor vehicle. This includes, but is not limited to, exhaust system noise, induction system noise, tire noise, cooling system noise, aerodynamic noise, and, where appropriate in the test procedure, braking system noise. This does not include noise created by road vehicle auxiliary equipment, such as power take-offs and compressors.
- *Public Roads* - any street, alley, road, highway, freeway, thoroughfare, or section thereof in this state used by the public or dedicated or appropriated to public use.

- *Quiet Area* - any land or facility designated by the Commission as an appropriate area where the qualities of serenity, tranquillity, and quiet are of extraordinary significance and serve an important public need, such as, without being limited to, a wilderness area, national park, state park, game reserve, wildlife breeding area, or amphitheater.
- *Road Vehicle* - any motor vehicle registered for use on public roads, including any attached trailing vehicles.
- *Road Vehicle Auxiliary Equipment* - those mechanical devices which are built in or attached to a road vehicle and are used primarily for the handling or storage of products in that motor vehicle. This includes, but is not limited to, refrigeration units, compressors, compactors, chippers, power lifts, mixers, pumps, blowers, and other mechanical devices.
- *Sound Pressure Level (SPL)* - twenty times the logarithm to the base 10 of the ratio of the root-mean-square pressure of the sound to the reference pressure. SPL is given in decibels. The reference pressure is 20 micropascals ( $\mu\text{Pa}$ )(20 micronewtons per square meter ( $\mu\text{N}/\text{m}^2$ )).
- *Statistical Noise Level* - the noise level which is equaled or exceeded a stated percentage of the time. An  $L_{10} = 65$  dBA implies that in any hour of the day, 65 dBA can be equaled or exceeded only 10 percent of the time, or for 6 min.
- *Warning Device* - any device that signals an unsafe or potentially dangerous situation.





**NOISE ABATEMENT**  
**GUIDANCE FOR OREGON CHECKLIST USERS**

<b>Applicability:</b>	<b>Refer to Checklist Items:</b>
In-Use Motor Vehicles	14-1 through 14-3
Airport Noise Impact Boundary	14-4
Airport Noise Abatement Program and Methodology	14-5

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<b>COMPLIANCE CATEGORY:</b> <b>NOISE ABATEMENT</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>IN-USE MOTOR VEHICLES</b></p> <p><b>14-1.</b> Installations are required to meet specific noise standards when operating road vehicles (OAR 340-35-030(1)(a) and (3)(a), (b), (c), and (e)).</p> <p><b>14-2.</b> Installations are required to meet ambient noise limits when operating motor vehicles (OAR 340-35-030(d)).</p>	<p>Determine if the installation operates any of the following types of motor vehicles, which are exempt from these requirements:</p> <ul style="list-style-type: none"> <li>- motor vehicles registered as antique or historical motor vehicles licensed</li> <li>- motor vehicle warning devices</li> <li>- vehicles equipped with at least two snowtread tires are exempt from the noise limits of Appendix 14-1</li> <li>- auxiliary equipment operated on construction sites in the maintenance of capital equipment to avoid or reduce the severity of accidents, operated on a farm for agricultural purposes, and operated on forest land for activities related to the growing or harvesting of forest tree species.</li> </ul> <p>Verify that the installation does not operate any road vehicle in a manner that exceeds the noise level limits specified in Appendix 14-1, or any road vehicle that exceeds the noise level limits specified in appendix 14-2.</p> <p>Verify that the installation does not operate a road vehicle with any of the following defects:</p> <ul style="list-style-type: none"> <li>- no muffler</li> <li>- leaks in the exhaust system</li> <li>- pinched outlet pipe.</li> </ul> <p>Determine if the installation operates any of the following types of motor vehicles which are exempt from this rule:</p> <ul style="list-style-type: none"> <li>- motor vehicles initially entering or leaving property that is more than 305 m (1000 ft) from the nearest noise sensitive property or quiet area</li> <li>- motor vehicles operating on public roads</li> <li>- motor vehicles operating off-road for nonrecreational purposes.</li> </ul> <p>Verify that the installation does not operate any motor vehicle if the operation increases the ambient noise level so that the appropriate noise level specified in Appendix 14-3 is exceeded, as measured from either noise sensitive property or a quiet area, if located within 1000 ft (305 m) of the motor vehicle.</p>

<b>COMPLIANCE CATEGORY:</b> <b>NOISE ABATEMENT</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<p><b>14-3.</b> Installations are required to meet specific noise limits when operating auxiliary equipment (OAR 340-35-030(e) and 340-35-035(3)(b)).</p> <p><b>AIRPORT NOISE IMPACT BOUNDARY</b></p> <p><b>14-4.</b> Proprietors of airports are required to submit specific information to the Department (OAR 340-35-045(2), (3)(a), (3)(c), (3)(d)).</p>	<p>Verify that the installation does not operate any road vehicle auxiliary equipment which exceeds the noise limits specified in Appendix 14-4, except as otherwise provided in these rules.</p> <p>Verify that the installation does not operate any road vehicle auxiliary equipment which exceeds 50 dBA for more than 30 min between 10 p.m. and 7 a.m. at the noise sensitive property measurement point.</p> <p>(NOTE: The noise sensitive property measurement point is either the point 7.6 m (25 ft) toward the noise source from that point on the noise sensitive building nearest the noise source or the point on the noise sensitive property line nearest the noise source, whichever is further from the noise source.)</p> <p>(NOTE: The criterion for airport noise is an annual average day-night airport noise level of 55 dBA.)</p> <p>Verify that, within 12 mo of designation, the proprietor of any air carrier airport submits for Department approval, the existing airport noise impact boundary, including the data and analysis used to determine the boundary.</p> <p>Verify that, before the construction or operation and any required local government land-use approval of any new airport, the proprietor submits for Department approval the projected airport noise impact boundary for the first full calendar year of operation, including the data and analysis used to determine the boundary.</p> <p>Verify that any airport proprietor who obtains funding to develop an airport master plan submits for Department approval an existing noise impact boundary and projected noise impact boundaries at 5, 10, and 20 yr into the future, including the data and analysis used to determine the boundaries.</p>

<b>COMPLIANCE CATEGORY:</b> <b>NOISE ABATEMENT</b> <b>Oregon Supplement</b>	
<b>REGULATORY REQUIREMENTS:</b>	<b>REVIEWER CHECKS:</b>
<b>AIRPORT NOISE ABATEMENT PROGRAM AND METHODOLOGY</b>  <b>14-5.</b> Proprietors of existing or new airports are required to develop an airport noise abatement program under specific circumstances (OAR 340-35-045(4)(a), (b), (e)).	<p>Verify that the proprietor of an existing or new airport whose airport noise impact boundary includes, or may include, noise sensitive property submits a proposed airport noise abatement program for Commission approval within 12 mo of written notification by the Director.</p> <p>Verify that the Airport Noise Abatement Program consists of all of the following elements (unless deemed unnecessary by the Department):</p> <ul style="list-style-type: none"> <li>- maps of the airport and its environs</li> <li>- an airport operational plan designed to reduce airport noise impacts at noise sensitive property to airport noise criterion to the greatest extent practicable</li> <li>- a proposed land use and development control plan to protect the area within the airport noise impact boundary from encroachment by noncompatible noise sensitive uses and to resolve conflicts with existing unprotected noise sensitive uses within the boundary.</li> </ul> <p>Verify that the proprietor reviews and revises the current airport noise abatement program no later than 6 mo before to the end of a 5-yr period following the Commission's approval.</p>



## Appendix 14-1

### In-Use Road Vehicle Standards Moving Test (at 15.2 m (50 ft) or greater) (OAR 340-35-030)

Operating Conditions	Trucks and Buses Exceeding 10,000 lb GVWR	Automobiles and Light Trucks	Motorcycles Noise Level (dBA)
Posted 45 mph or less under any grade, load, acceleration, or deceleration.	86	72	78
Posted greater than 45 mph under any grade, load, acceleration, or deceleration.	90	78	82
Moving at 35 mph or less on level roadway under constant speed more than 200 ft from stop.	84	70	74





## Appendix 14-2

### In-Use Road Vehicle Standards Stationary Test (OAR 340-35-030)

Vehicle Type	Model Year	Maximum Noise Level, dBA	Minimum Distance from Vehicle to Measurement Point
All vehicles	Before 1976	94	7.6 m (25 ft)
	1976 and After	91	7.6 m (25 ft)
All other trucks in excess of 8000 lb (3629 kg) Gross Vehicle Weight Rating (GVWR)	Before 1976	94	7.6 m (25 ft)
	1976-1981	91	7.6 m (25 ft)
	After 1981	88	7.6 m (25 ft)
Motorcycles	1975 and Before	102	0.5 m (20 in.)
	After 1975	99	0.5 m (20 in.)
Front-engine automobiles, light trucks, and all other front-engine road vehicles	All	95	0.5 m (20 in.)
Rear-engine automobiles, and light trucks and mid-engine automobiles and light trucks	All	97	0.5 m (20 in.)
Buses	Before 1976	94	7.6 m (25 ft)
	1976 and After	91	7.6 m (25 ft)



### **Appendix 14-3**

#### **Ambient Standards for Vehicles Operated Near Noise Sensitive Property (OAR 340-35-030)**

<b>Allowable Noise Limits</b>	
<b>Time</b>	<b>Maximum Noise Level, dBA</b>
7 a.m. - 10 p.m.	60
10 p.m. - 7 a.m.	55



#### **Appendix 14-4**

### **Motor Vehicle Auxiliary Equipment Noise Standards Stationary Test (at 15.2 m (50 ft) or greater) (OAR 340-35-030)**

<b>Model Year</b>	<b>Maximum Noise Level</b>
Before 1976	88 dBA
1976-1978	85 dBA
After 1978	82 dBA



INSTALLATION:	COMPLIANCE CATEGORY: Noise Abatement Oregon Supplement	DATE:	REVIEWER(S):
STATUS NA   C   RMA	REVIEWER COMMENTS:		

**SECTION 15**

**RADON PROGRAM**

**Oregon Supplement**



**SECTION 15**  
**RADON PROGRAM**  
**Oregon Supplement**

Oregon has no specific requirements concerning radon monitoring. See Protocol 15 of the U.S. Environmental Compliance Assessment System (ECAS) Manual for Army and Department of Defense (DOD) requirements.



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> Radon Program Oregon Supplement	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> NA   C   RMA	<b>REVIEWER COMMENTS:</b>		

## **SECTION 16**

### **ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)**

#### **Oregon Supplement**

**SECTION 16**  
**ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)**  
**Oregon Supplement**

This protocol has no specific, applicable state regulations. See Protocol 16 in the U.S. Environmental Compliance Assessment System ( ECAS) Manual for Army requirements.



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> <b>Environmental Program Management (EPM)</b> <b>Oregon Supplement</b>	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> <b>NA   C   RMA</b>	<b>REVIEWER COMMENTS:</b>		

## **SECTION 17**

### **HAZARDOUS MATERIALS MANAGEMENT**

#### **Oregon Supplement**



**SECTION 17**  
**HAZARDOUS MATERIALS MANAGEMENT**  
**Oregon Supplement**

Oregon has adopted the rules and regulations governing the transportation of hazardous materials by motor vehicle prescribed in 49 Code of Federal Regulations (CFR) 177 and 397, and such portions of Parts 107 through 178 and 180, as are applicable to motor carriers. Protocol 6 of this supplement concerns the storage of hazardous materials in underground storage tanks (USTs). See the U.S. Environmental Compliance Assessment System (ECAS) Manual for Army and Department of Defense (DOD) requirements.



<b>INSTALLATION:</b>	<b>COMPLIANCE CATEGORY:</b> <b>Hazardous Materials Management</b> <b>Oregon Supplement</b>	<b>DATE:</b>	<b>REVIEWER(S):</b>
<b>STATUS</b> <b>NA   C   RMA</b>	<b>REVIEWER COMMENTS:</b>		